Marco Pereira Series

Harmony Books

for guitar

Marco Pereira

Book II

1st edition

São Paulo

2026

BOOK 1

First part: TONAL HARMONY

BOOK 2

TONAL HARMONY

BOOK 3

Second part: MODAL HARMONY

Introduction

Harmony is the study of the relationships between two of the most relevant technical aspects of musical practice. The vertical is defined by all types of chords, and the horizontal is always associated with the scales.

From a historical perspective, there is a great period that goes from the homophony of the so-called Gregorian Chant to the beginning of the 20th century. The creation of the dodecaphonic system by Arnold Schoenberg and the development of jazz language were the basis of my research and study to accomplish the work I am now presenting. The focus is not only on the profound understanding of the Tonal System but also on fixing the main concepts that define the use of chords from a purely modal perspective.

The theoretical study of Harmony, being based on acoustic and mathematical principles, had a very diverse and conflicting development. The reason for this lies in the countless possibilities of interpretation of the different scales used and, especially, of a vast number of chords, with the possibilities of interval combinations, their connections, and resolutions. Even so, many divergences were generated by the creation of chord progression rules, not based on acoustic principles but on purely stylistic issues.

This variety of concepts resulted in a true Tower of Babel of symbols and nomenclatures, generating a great discrepancy between important theoretical works written on the subject. What we have today, as an inheritance of this diversity of ideas, is a series of relevant works on Tonal and Modal Harmony that present different interpretations and concepts, making it difficult to understand and associate their contents.

The theoretical elements that govern the relationship between chords must be considered an essential tool for understanding the harmonic process and must always be associated with an obstinate work of ear training and instrumental practice. Thinking, listening, and playing, developed in a balanced way, will be the foundation on which the activity of every musician should be based.

The main objective of the work that I now present is to offer guitarists didactic material on Tonal and Modal Harmony that will help them walk through this complex world of chords and scales. The focus will be on the aesthetics of the jazz language and its consequences, without losing, however, the reference to the harmonic practice enshrined in European music in the 19th and early 20th centuries.

The study of Harmony is a long process and requires a lot of discipline and dedication by the student. However, the harmonic sense, which should guide all musicians in this matter, is a natural faculty that does not depend on any previous theoretical study. Note, for example, that a layperson who has not undergone any type of theoretical training and who is also not familiar with harmonic instruments may perceive chord inconsistencies with the original harmonization of a song or a renowned musical composition. This is because the identity of a song or musical piece has, in addition to its obvious melodic line, an inherent harmonic content, which we keep in our memory, and which makes us notice any discrepancies. So, even before any theoretical study, we can say that we all have in our memory enough information about harmonic relationships that allows us to recognize and judge different chord progressions. The main work that must be carried out by the student will be the decoding and organization of all chord structures, whether through theoretical understanding (thinking), ear training (listening), or instrumental practice (playing). The development of any musician should always be based on two main factors: analysis and repertoire. By analysis, being the ability to understand and assimilate harmonic and melodic content from the widest possible variety of musical themes, from different eras and styles. By repertoire, the intellectual and mechanical memorization of countless musical materials elaborated from scales, chords, arpeggios, melodic phrases, and rhythmic articulations. Mastering different musical styles technically will consistently expand the creative and expressive abilities of each musician.

I hope that these books can become pleasant and stimulating companions for all those who are interested in the fascinating universe of Harmony.

São Paulo, March 20, 2026

Marco Pereira

Other Tonal Scales

Tonal scales are scales whose intervallic structures always feature the perfect fourth, the perfect fifth, and the leading tone. This results in a unique tetrad over the V, a chord with a 7 structure and dominant function. This chord, as previously mentioned, is the main reference in the typical cadential movements of the Tonal System. The first four tonal scales, in addition to having fixed intervals of the IV, V, and VII, also present the major second interval between I and II. This interval can be altered without affecting the functional quality of the dominant chord, and for this reason, we can also classify as tonal scales certain scales that have the II lowered, forming the minor second interval with the tonic. The alteration of this interval results in a dominant chord with the diminished fifth over the V, and in the case of these scales with bII, the dominant chord with the altered fifth becomes a chord of the scale. The use of these scales, their resulting chords, and the consequent cadences has limited application. In most cases, the use of their harmonic structures occurs in the process of borrowing chords.

See below the tonal scales with their respective second degrees lowered by a semitone and their main cadences:

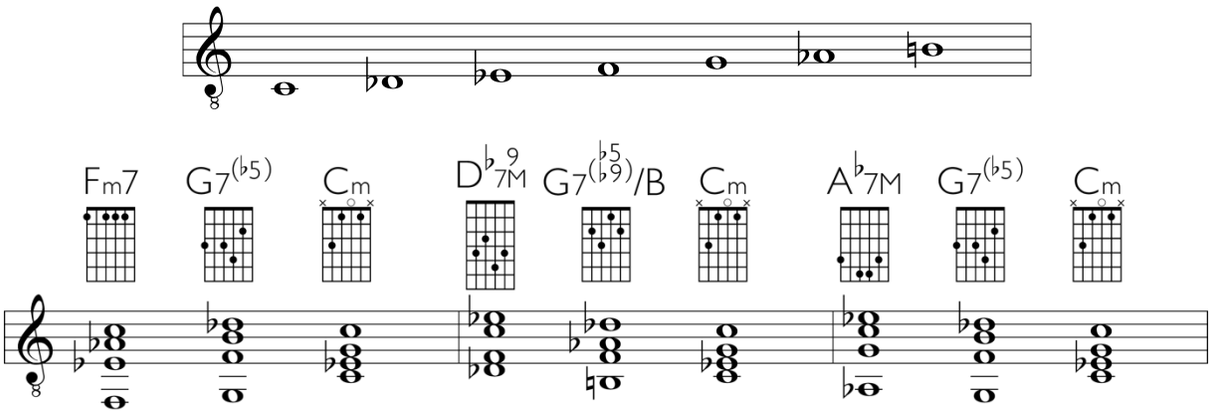
Harmonic minor b2 scale

We will begin with the **b2 harmonic minor scale** due to its prominent role in European musical language as the basis of the **Neapolitan chord**. This scale, partly due to its exotic minor and augmented second intervals, did not spread throughout Europe and other parts of the world as an element of melodic structuring. However, it was from it that the concept of the Neapolitan sixth chord and its application in the so-called Neapolitan School was born[1].

The **b2 harmonic minor scale**, also called the Neapolitan minor scale, has a historical record as originating from southern Italy, more precisely from the Naples region, where it was practiced in popular musical manifestations. It has a close connection with the Phrygian mode[2] *(which also has bII)*, from which it differs only in that the VII is a leading tone, representing one of the main elements that give it the status of a tonal scale.

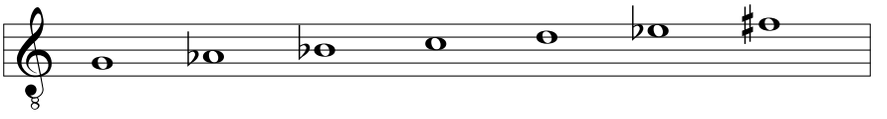
[1] *Musical movement formed by Italian composers such as Alessandro Scarlatti, Pergolesi, Paisiello and Cimarosa, among others.*
[2] *Remember that all kinds of fleets of Greek, Arab, etc. origin sailed the seas of southern Italy.*

Harmonic minor b2 scale

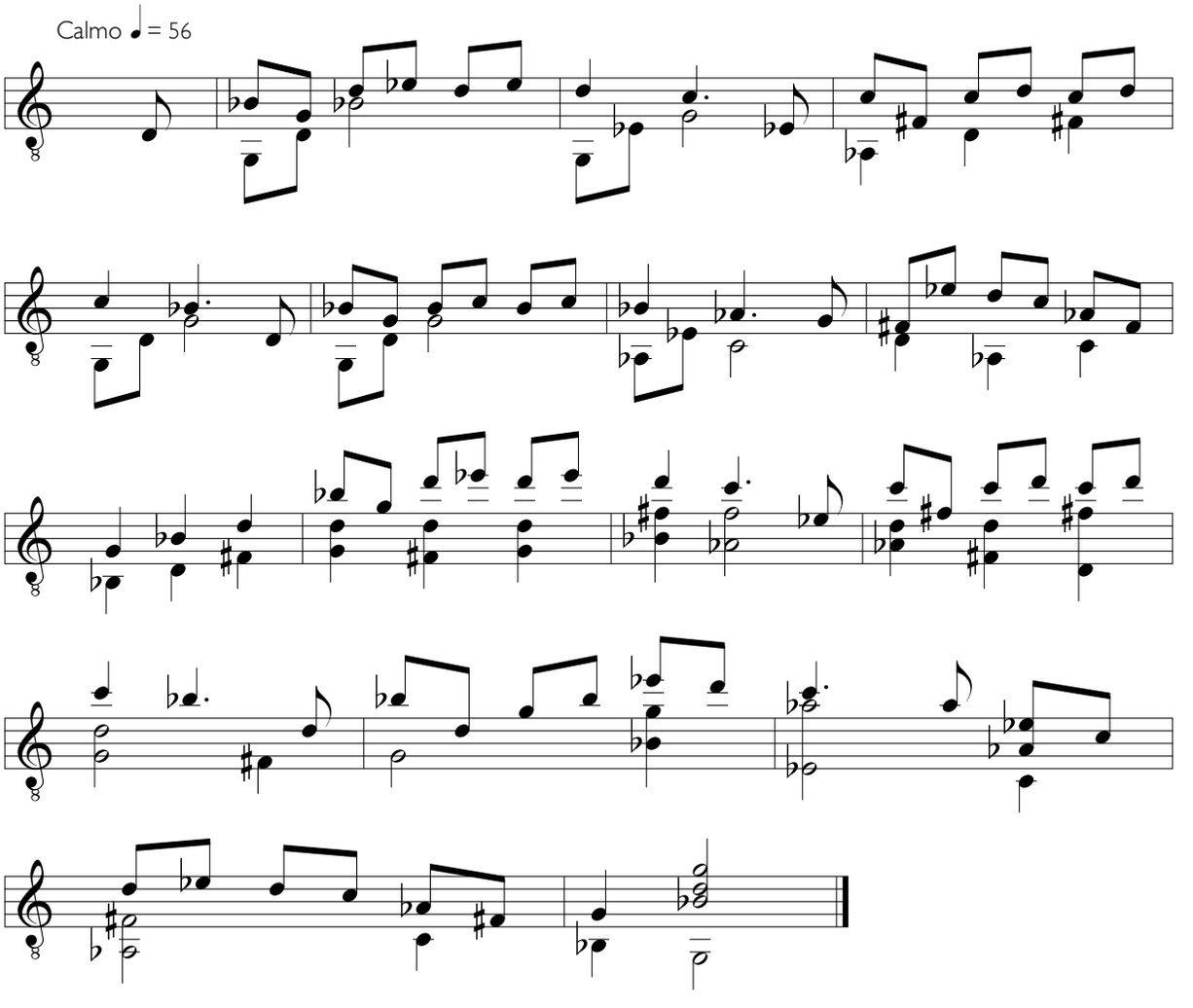


Track 01

Sol menor napolitana

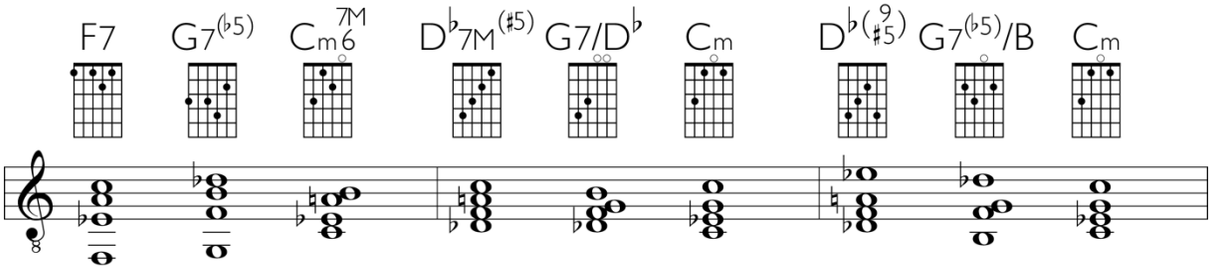


Calmo ♩ = 56



Melodic minor b2 scale

This is the version of the scale also known as the major Neapolitan scale. Its use in cadential form presents interesting solutions in the IV-V-I or II-V-I combination.



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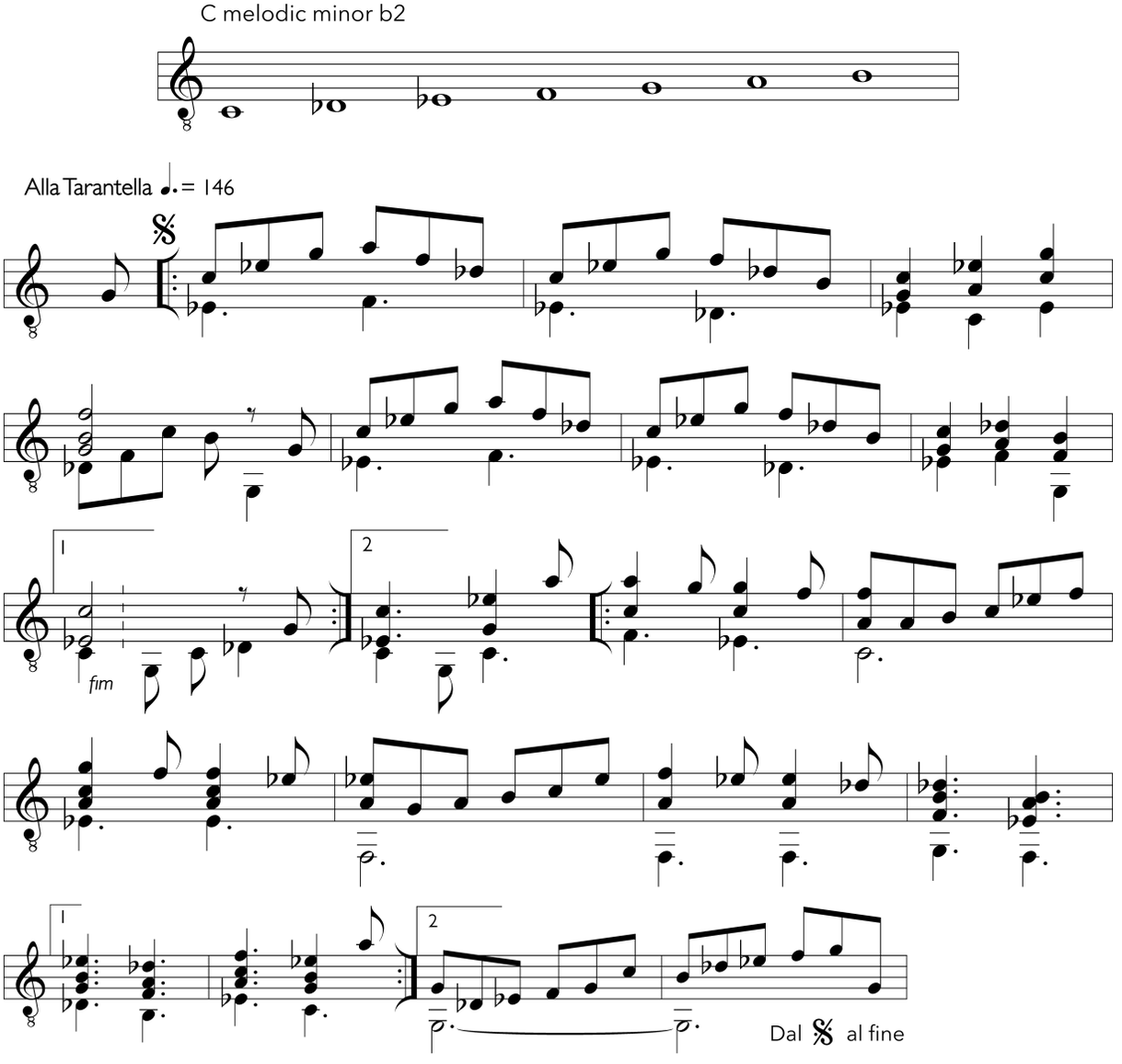
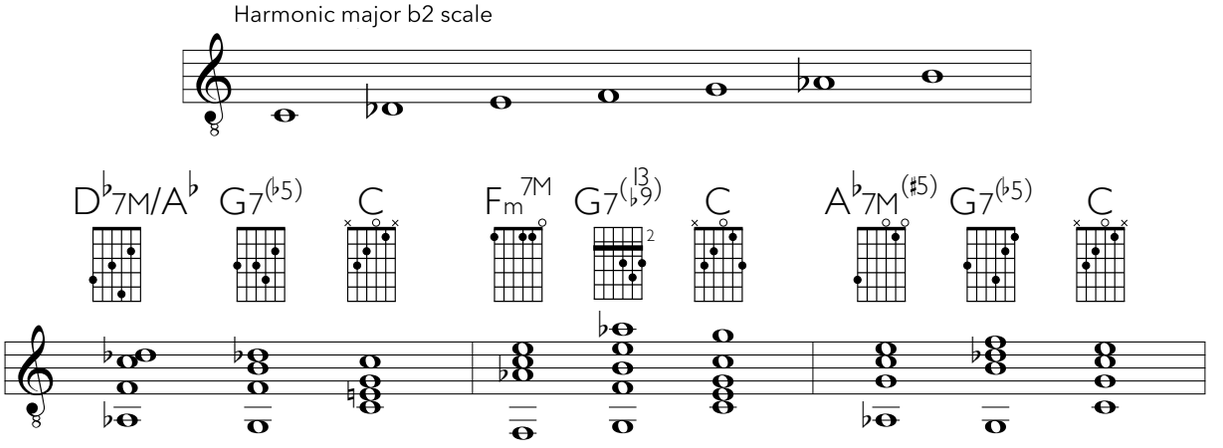


Harmonic major b2 scale

Also known as the Andalusian scale, its use became established among guitarists of popular music in southern Spain, more specifically in the Andalusia region.



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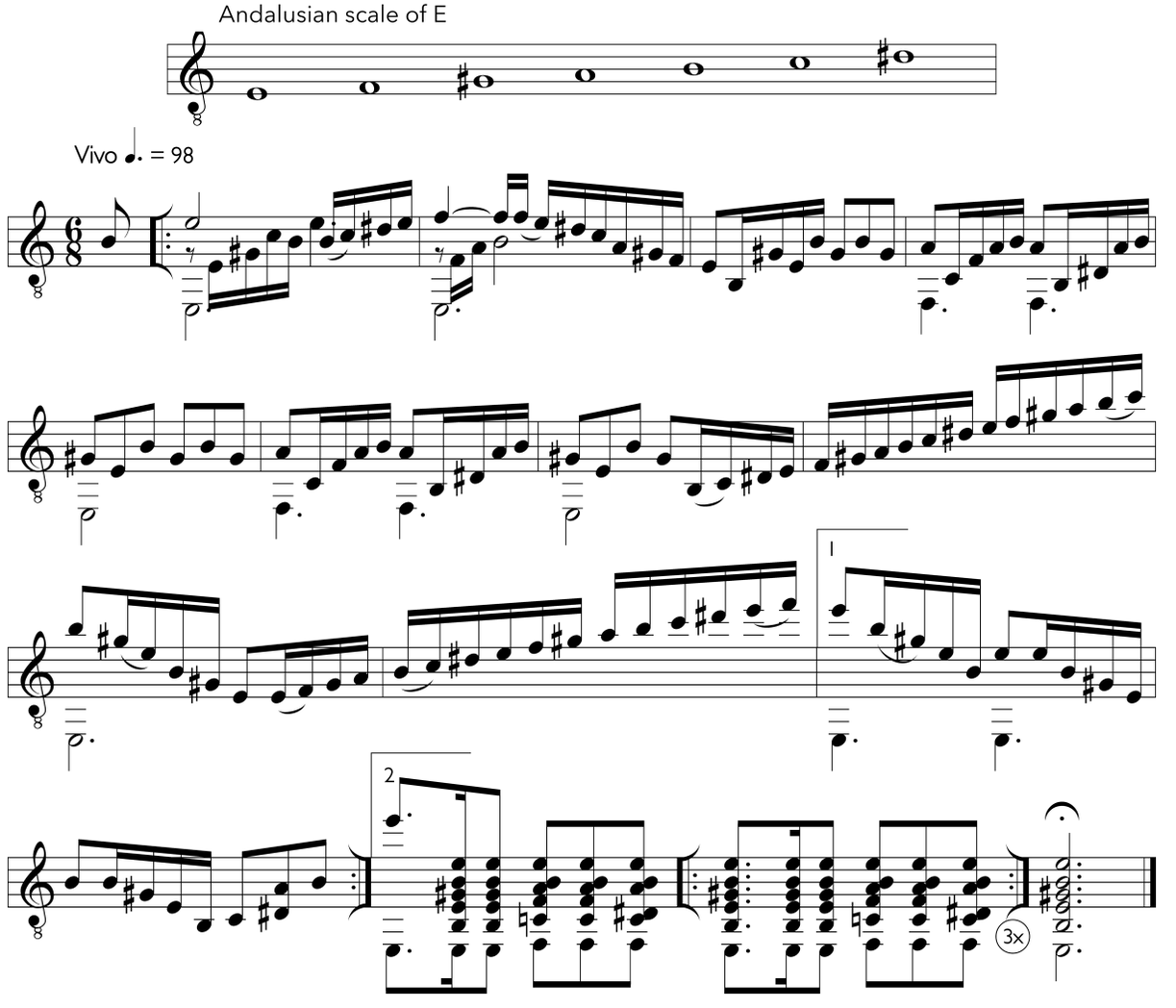
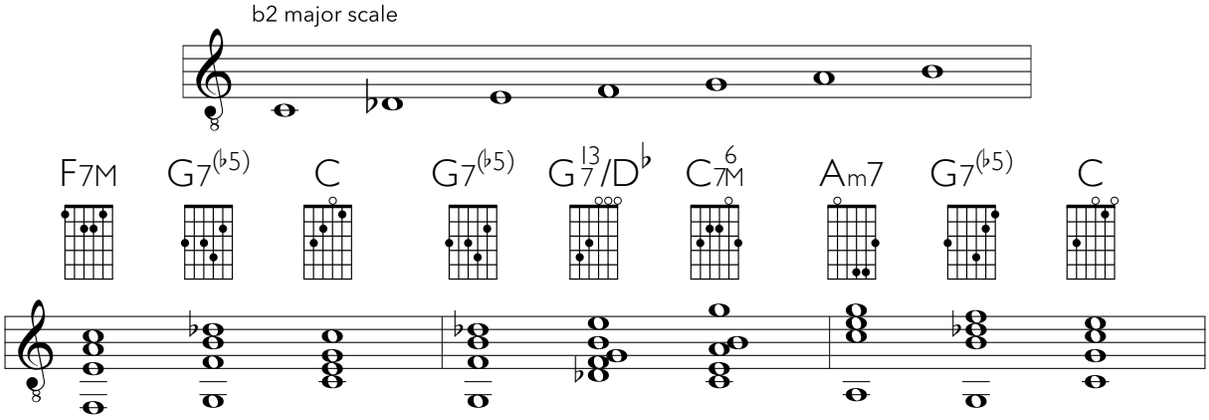


Major scale b2

The b2 major scale is characterized by the dominant seventh chord with a diminished fifth. Using the seventh-degree triad in the cadence offers an excellent result. See and hear the following example:



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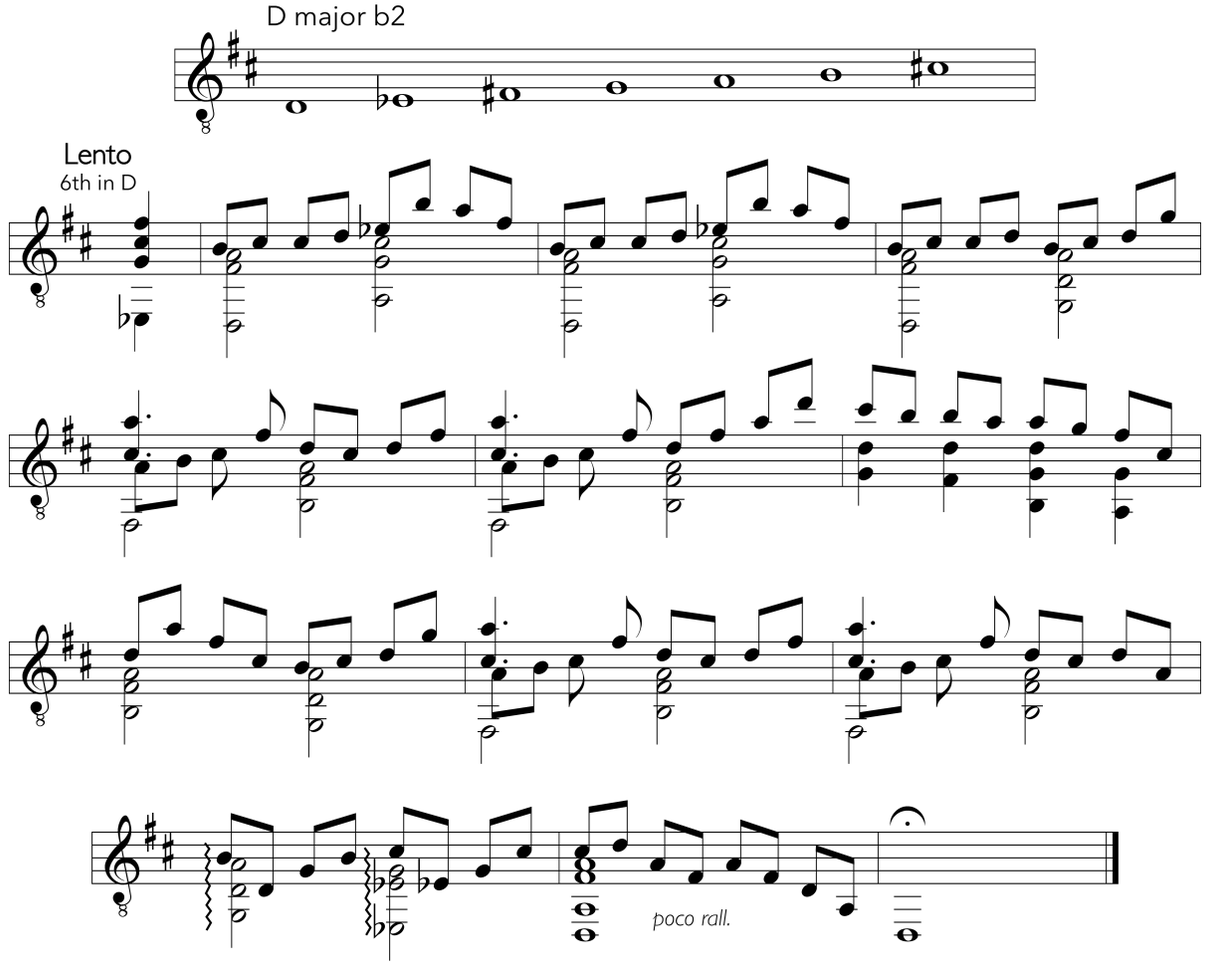
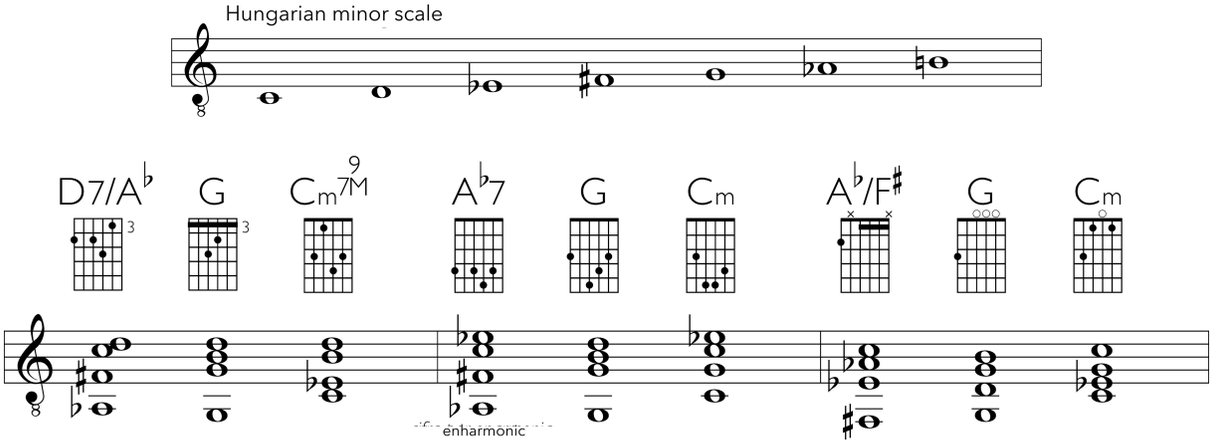


Hungarian minor scale

Also known as the gypsy scale, the Hungarian minor scale represents the fourth mode of the b2 harmonic major scale and, due to the two augmented second intervals that occur in its structure, one of them being the leading tone, it maintains a weak but true tonal quality, even with its fourth degree altered.



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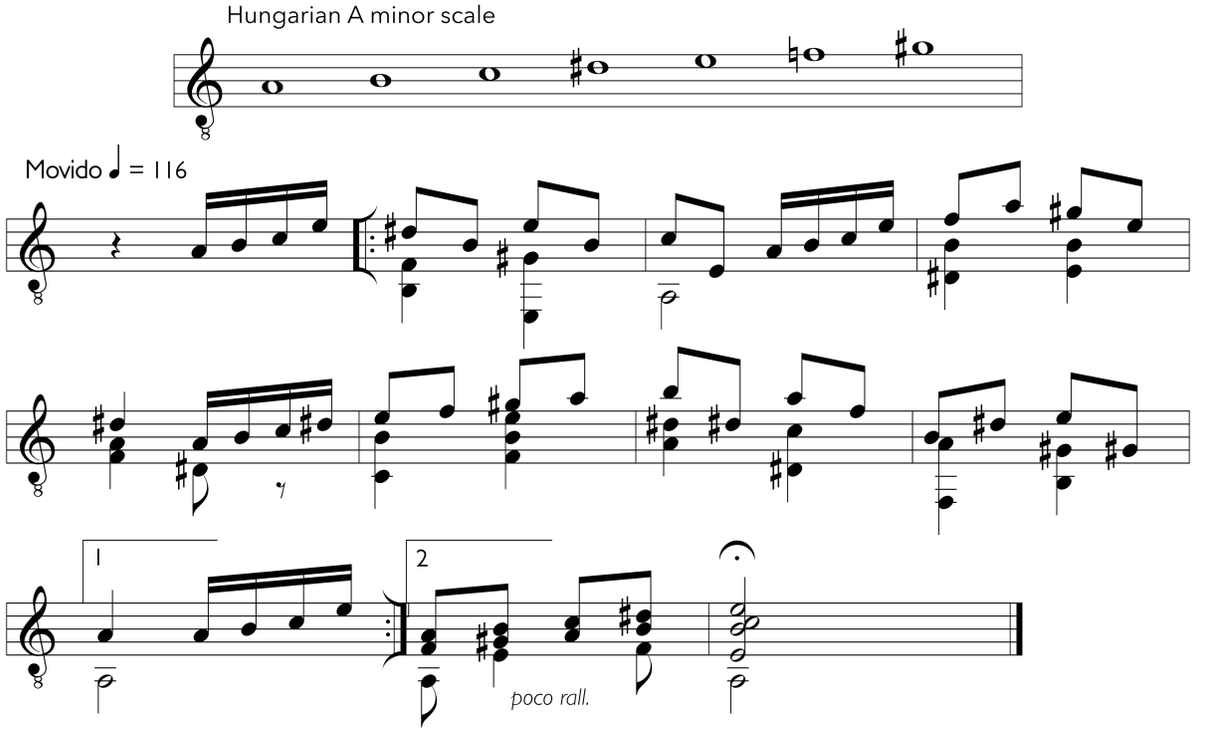
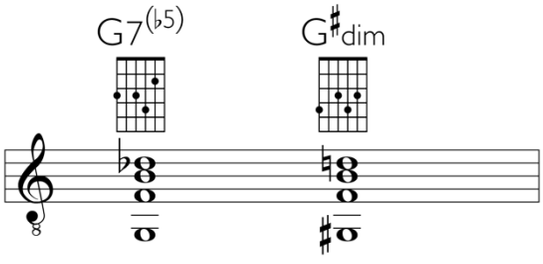


Exercise:

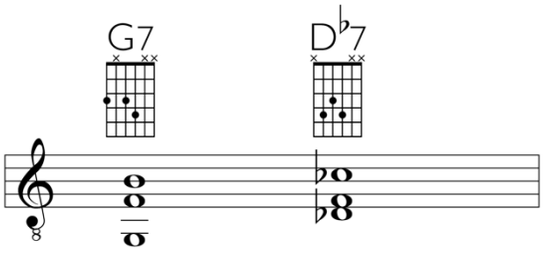
Create harmonic and melodic passages in different keys based on the scales and chords described above.

Resolution of dominants with two tritones

Dominant chords containing two tritones in their structure are of two types: Dominant 7(b5) and diminished dominant chords[1].

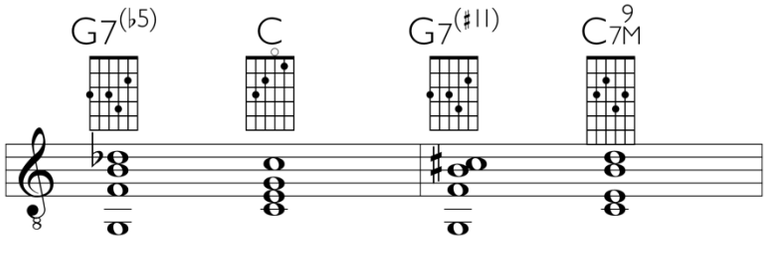


The tritone is the interval that represents the division of the chromatic scale into two equal parts. For this reason, whether as an augmented fourth or a diminished fifth (when inverted), it will always present the same tritone interval structure. Therefore, when we enharmonicize the notes of any tritone, this tritone will serve a new dominant. In the G7 chord, for example, the F-B tritone has the same sound as the F-C flat tritone of Db7. The same tritone can be associated with two dominants of different keys: C and Gb.



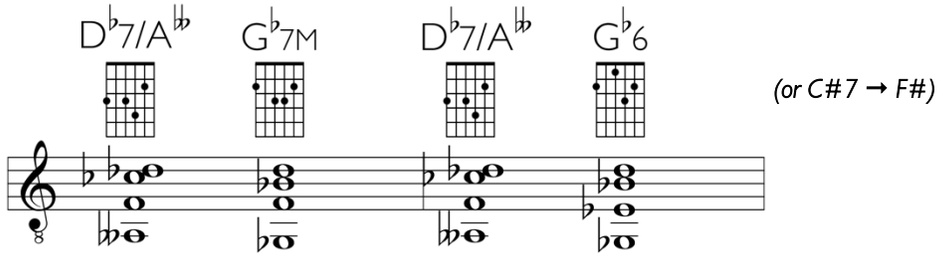
Thus, tetrads with a dominant function that contain two tritones in their structure can represent four different chords, each polarizing with its own tonic.

In the case of the G7(b5) or G7(#11) structures, we have the following possible resolutions:

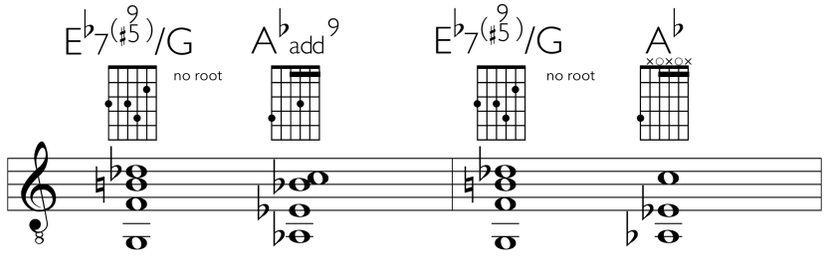


[1] *In non-dominant diminished chords, there is no resolution of the tritones; instead, there is a chromatic progression of two notes from the chord.*

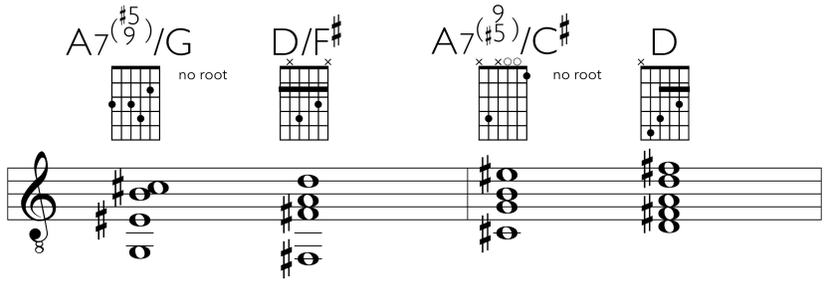
If the tritone **F-B** is enharmonically transformed to **F-C flat**, the dominant chord becomes **Db7** and its resolution will be as follows:



The other tritone that is part of the structure of this chord is formed by the notes **G-D flat**. Starting from this interval to represent a dominant chord, we arrive at **Eb7**, whose notes will be resolved as follows:



If the tritone **G-D-flat** is enharmonically transformed to **G-C-sharp**, we will have the following dominant structure and its consequent resolution:

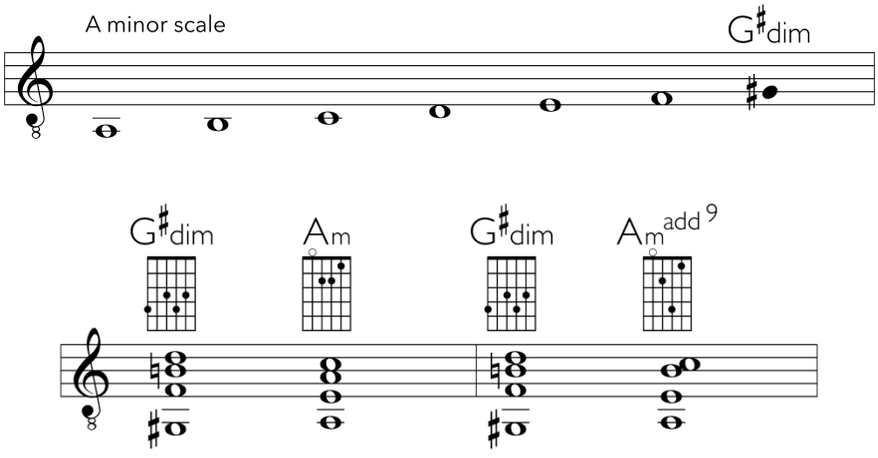


Dominant chords of this type preferentially resolve to major chords, due to the presence of the major ninth and the augmented fifth.

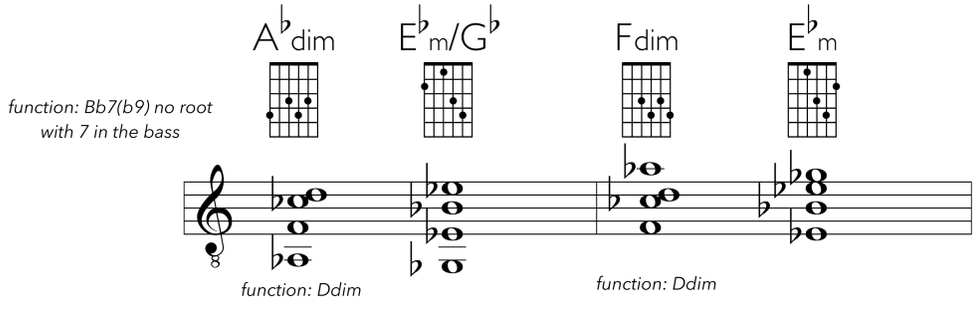
Resolution of diminished chords: dominant function

Just as the two tritones of a dominant tetrad with a diminished fifth could be enharmonically reinterpreted, we can also do the same with the tritones of a diminished chord with a dominant function. We will take as our starting point the resolution of the **G#dim** chord representing the **VII** of the **A harmonic minor scale**, with the main tritone **G#-D**. Next, we will see the other chords

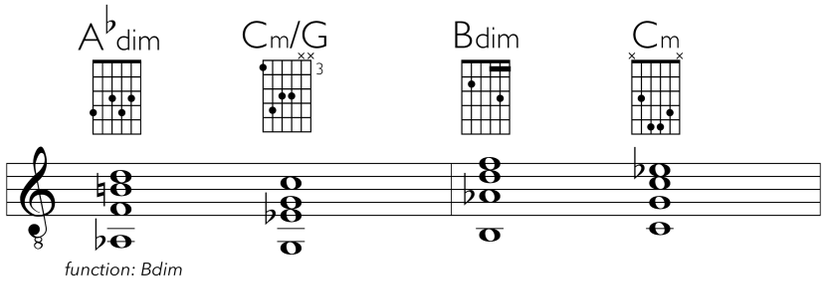
that have the same structure but different meanings due to the enharmonic interpretation of their notes.



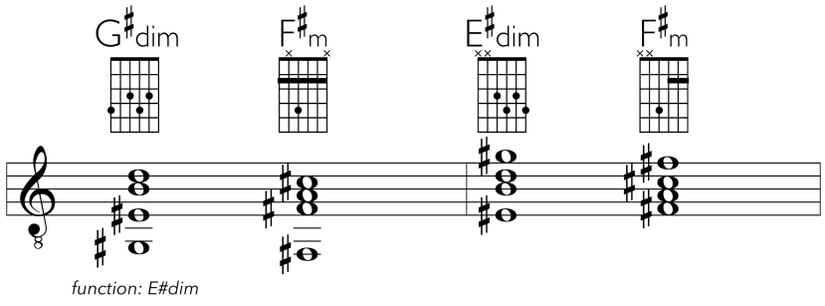
The tritone G#-D enharmonic to Aflat-D will represent the dominant function of E-flat minor and will have the following resolution:



The other two tritones that are part of the same chord can be interpreted as **F-B** or **E#-B**. In the case of the **F-B** tritone, the chord will resolve to **C minor**. In this case, the diminished chord will represent the seventh degree of the **C harmonic minor**.

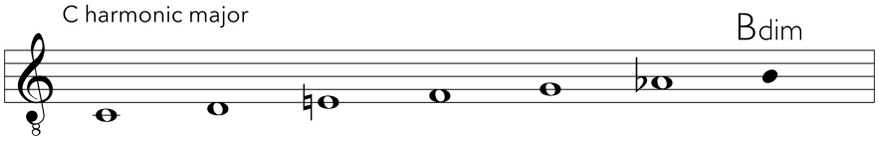


And, in the case of the **F-B** tritone, enharmonically transformed to **E#-B**, this diminished chord will resolve to the tonic chord of **F# minor**.



Resolution of diminished dominant chords in major chords

The diminished chord with a dominant function, in addition to representing the seventh degree chord of harmonic minor scales, is also situated on the seventh degree of harmonic major scales.



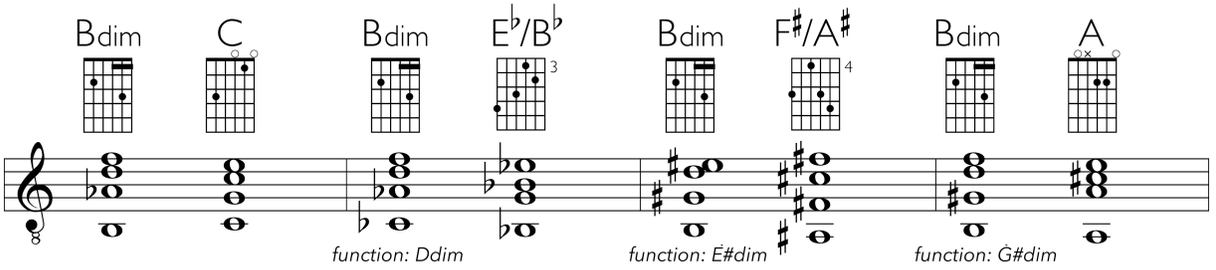
Therefore, it is predicted that each of these four resolutions on minor tonics can also occur on major tonics, since the tonic chord in the harmonic major scale is a major chord.

We can say, then, that the diminished dominant chord has, in addition to the four most common resolutions, which are made on minor tonics, four other resolutions on major tonics. Some are located on the first degree of the harmonic minor scales, and the others on the first degree of the harmonic major scales. By the same enharmonic process as the tritones, the diminished chord of the harmonic major scales offers the following possibilities of resolution:

Bdim → C

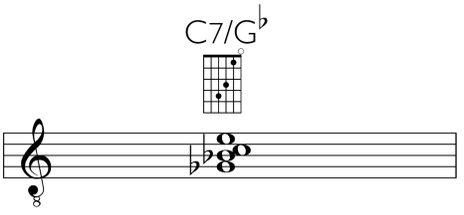
Original diminished chord	Enharmonic diminished chord	Chord resolution
Bdim	Ddim	Eb/Bb
Bdim	E#dim	F#/A#
Bdim	G#dim	A

Enharmonizing the **Bdim** tritone: chord progressions:



Note:

Dominant chords with two tritones are important chords in tonal modulation processes, and this specific topic will be addressed in the corresponding chapter. The chord with a dominant structure with a diminished fifth is a characteristic chord of chord structures derived from the whole-tone scale, the hexatonic scale, or the symmetrical scale. It is plausible to use chords borrowed from this scale, a modal scale, for application within tonal planes. In this case, the chord will present itself with the characteristic exceptions brought from the modal process, where there are no restrictions regarding the state of the chords. Let's look at the following structure for analysis purposes:

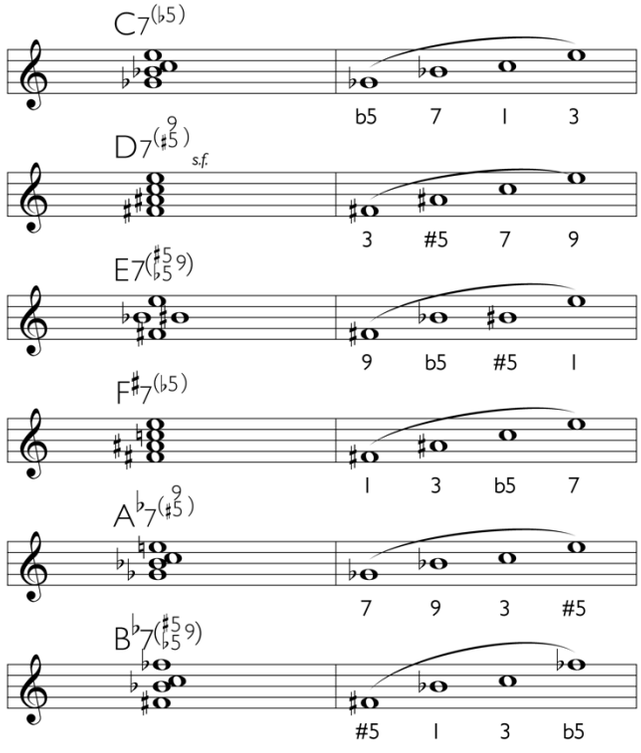


Beyond the enharmonic interpretations already discussed in this chapter, we can establish other resolutions for this same chord structure using the whole-tone scale. One of them is to transform this same chord into an A major dominant, for example. This will be done by reinterpreting the intervals of this chord based on the hexatonic scale. See how the notes look in this new interpretation:

***C** (root in **C7**) = **B#** (#5 in E7)*
***E** (third in **C7**) = **E** (root in E7)*
***Gb** (b5 in **C7**) = **F#** (9 in E7)*
***Bb** (7 in **C7**) = Bb (b5 in E7)*

The structural and resolutional exceptions of this chord are also explained by its symmetrical characteristic. The hexatonic scale is a dominant scale with symmetry by tones and, therefore, allows us six different interpretations for the same dominant chord.

See the reinterpretation based on the chord presented above:



In Book III of the Harmony Books we will see further details about the combination of the chords described above within a modal structure.

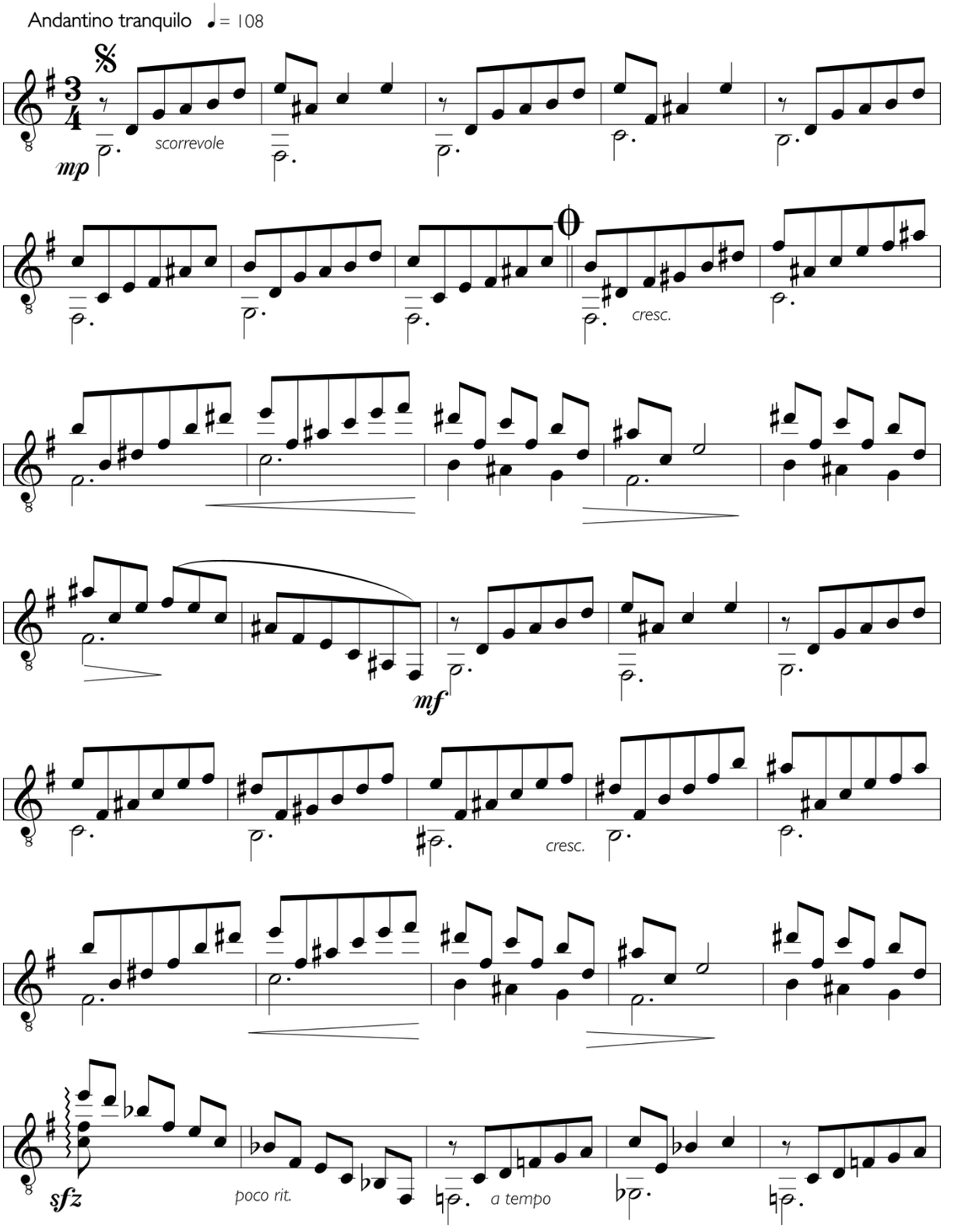
Exercise:

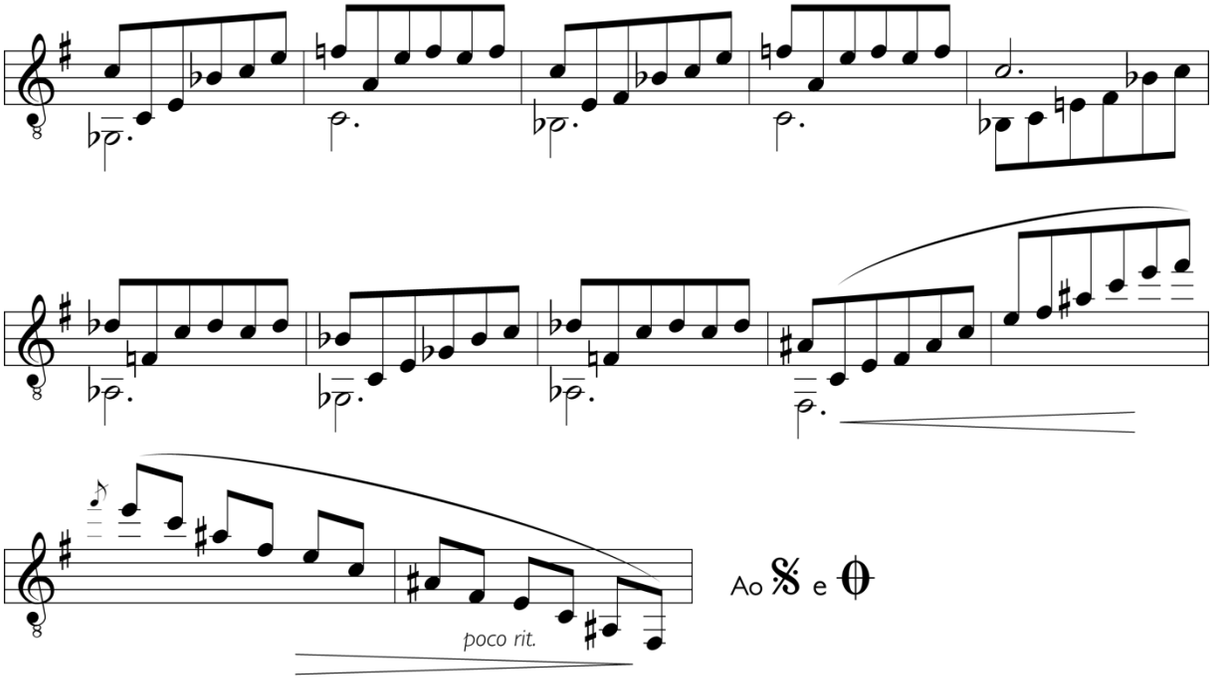
1) Write and play the possible resolutions of the following dominant chords using the enharmonic process:

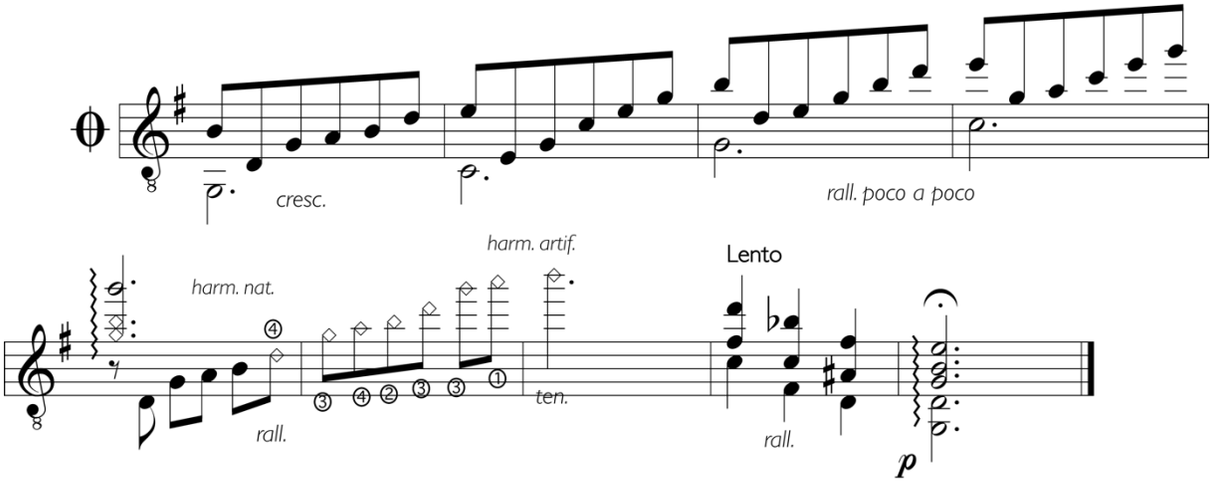
A7(#11)	F7(#11)
E7(b5)	Adim
Ddim	Bb7(b5)
F#dim	A#dim
D7(#11)	D#dim
C#dim	C7/Gb

Exercises – Perception and Analysis

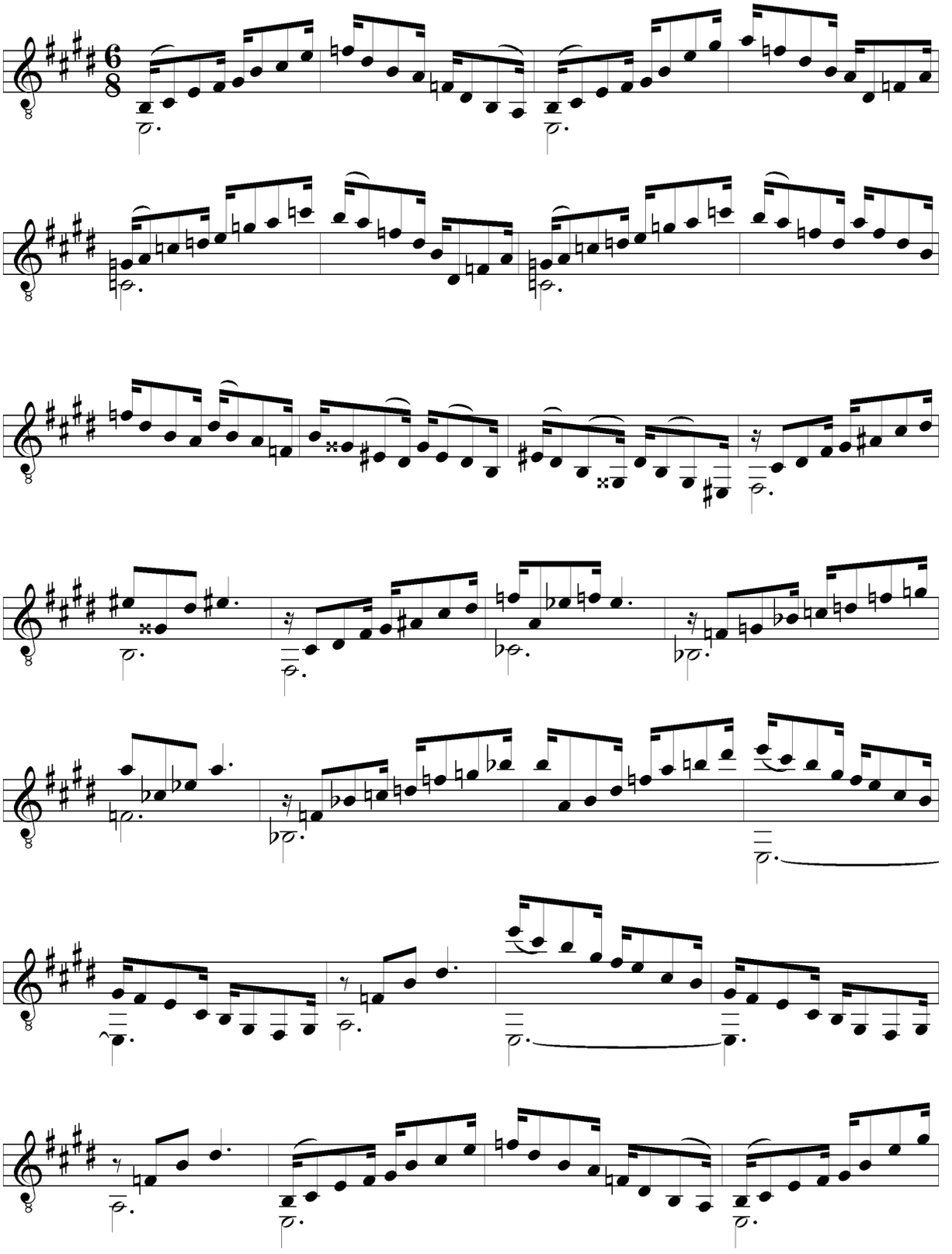
Track 06

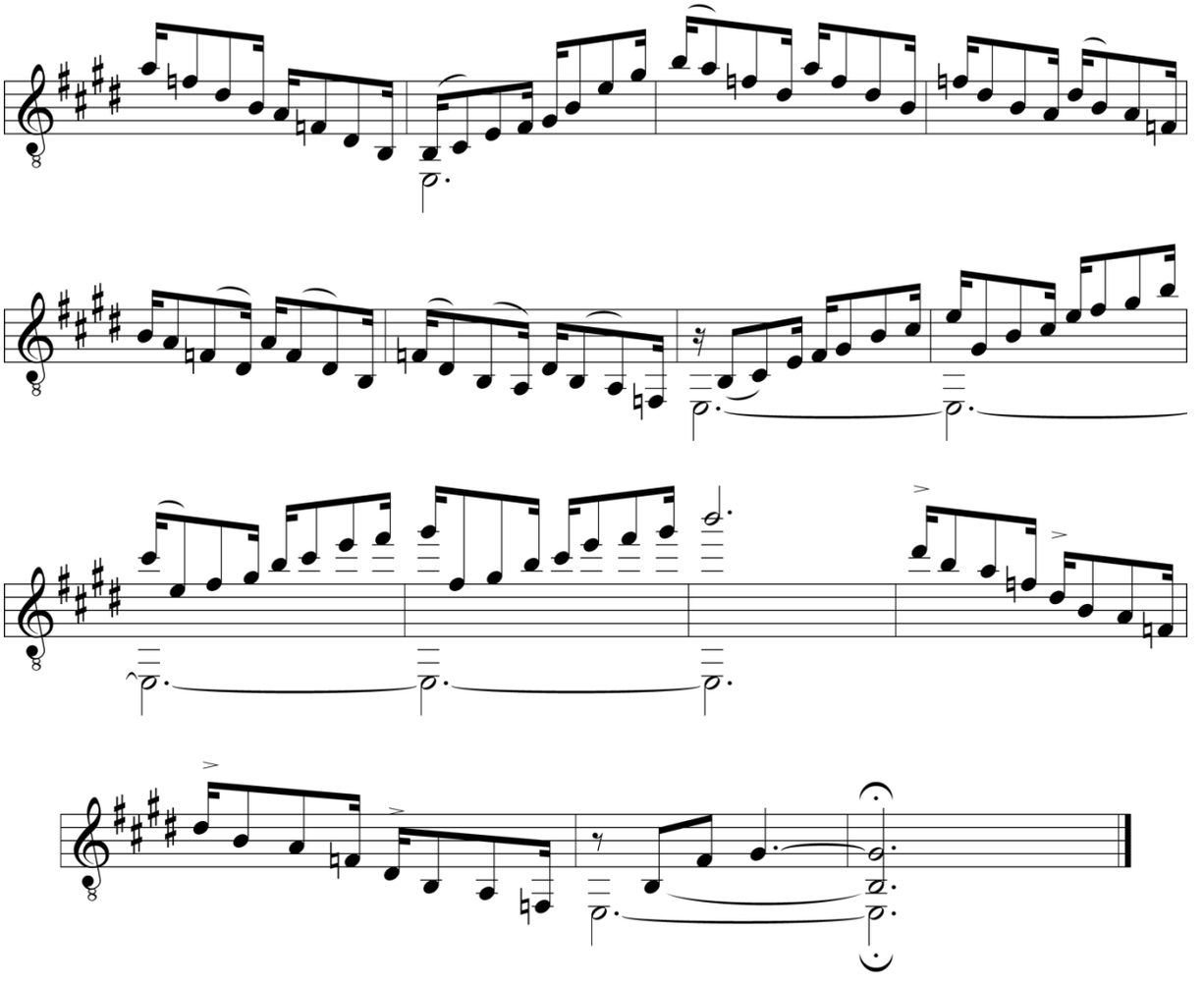




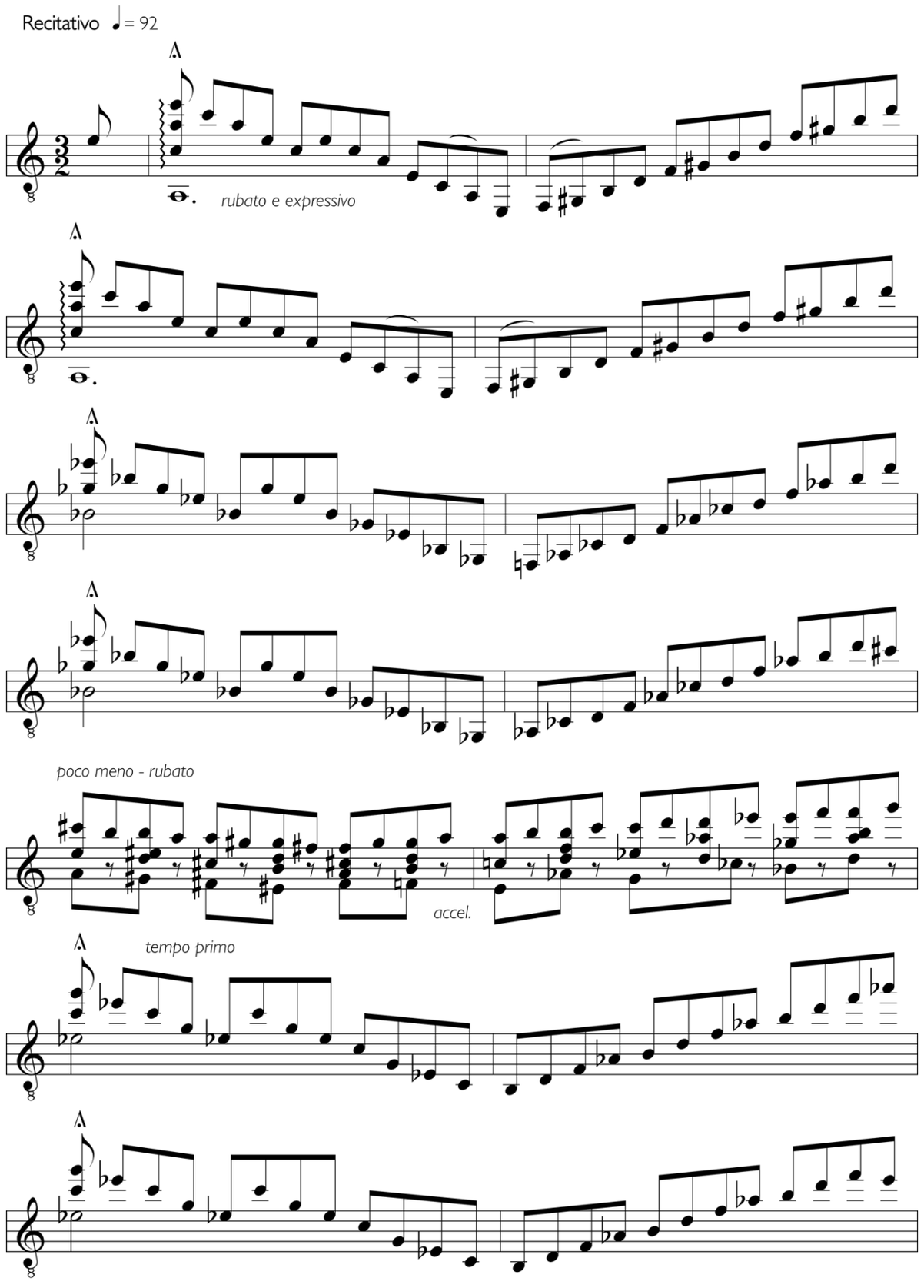


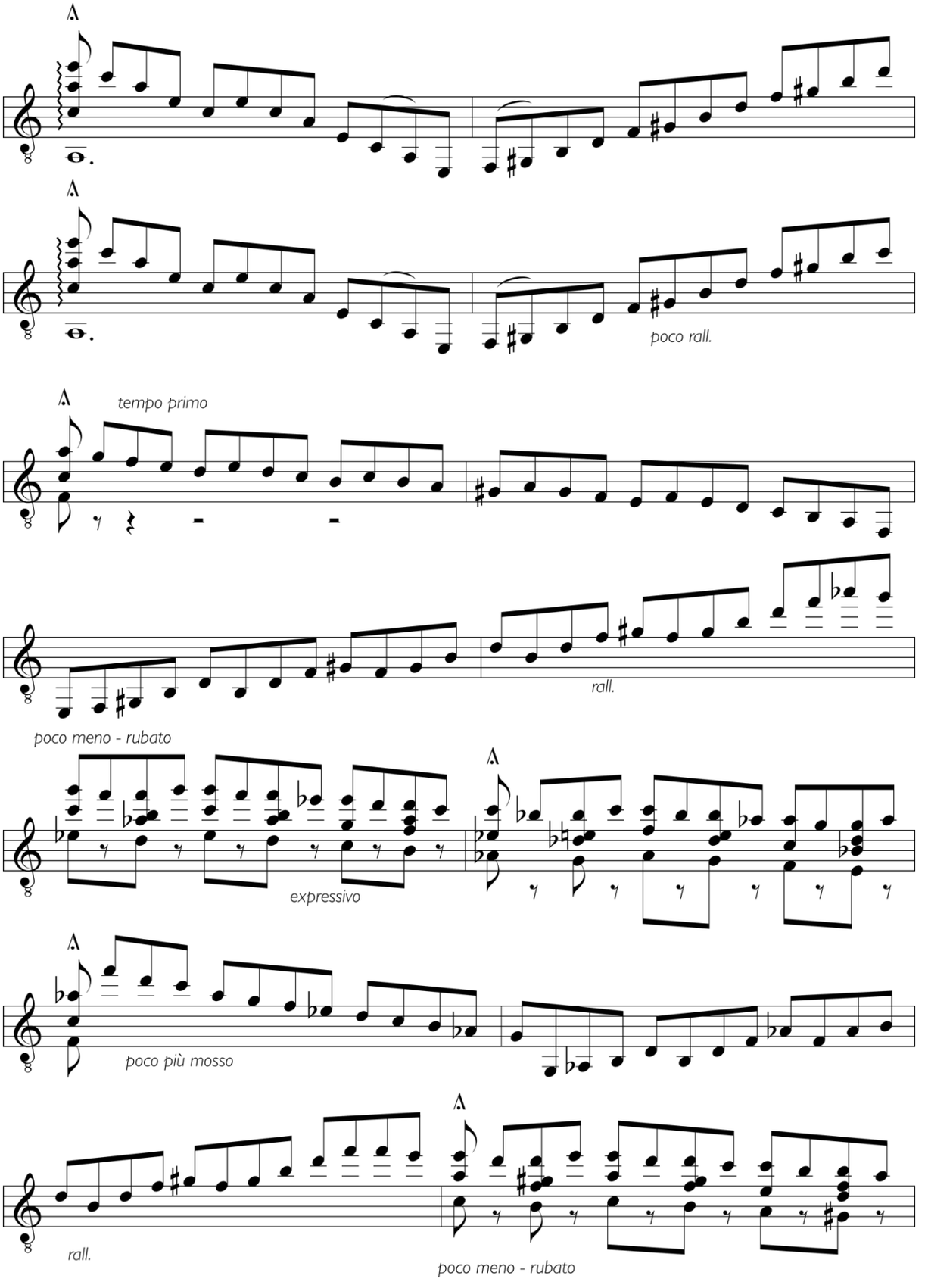
Track 07

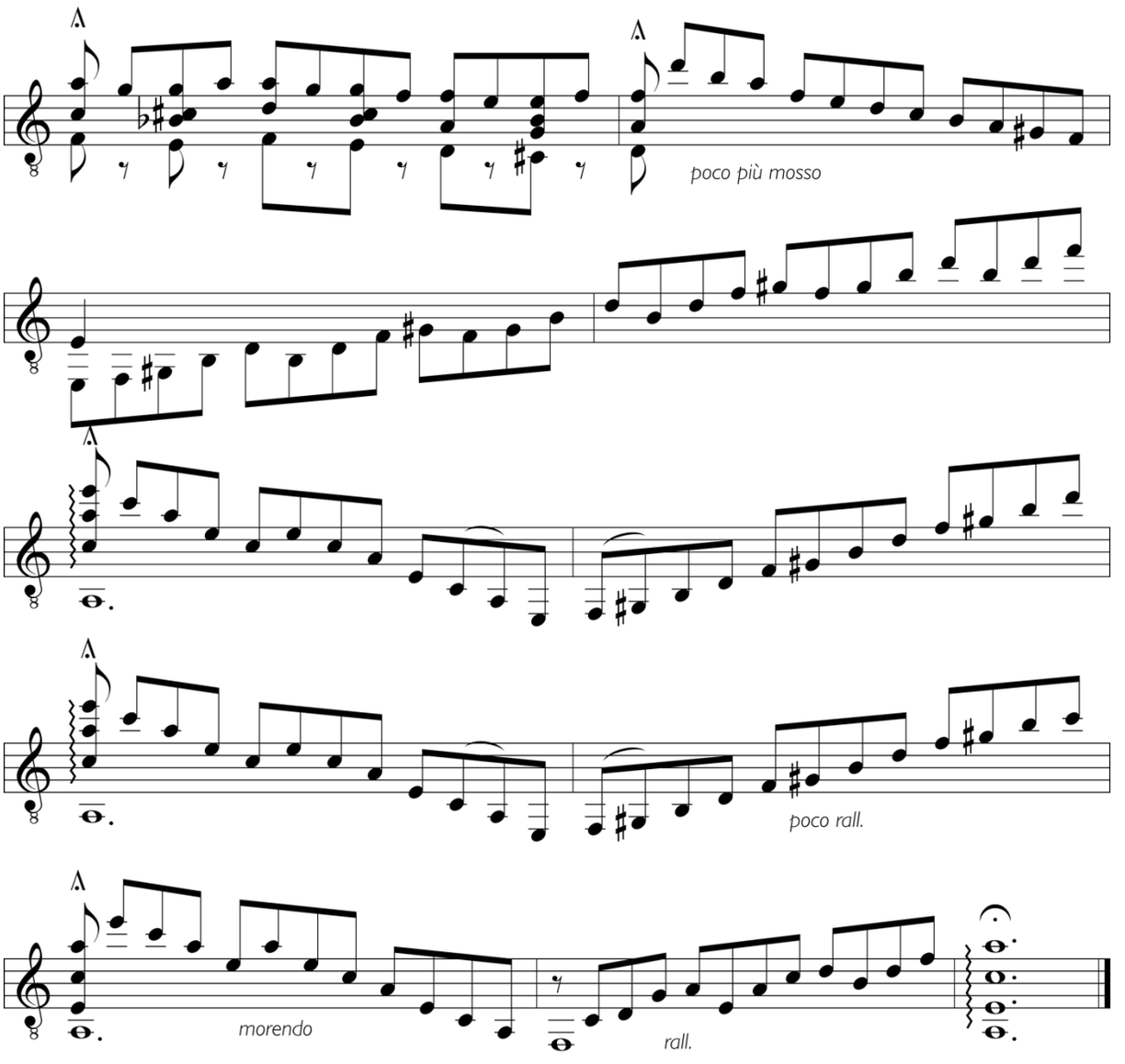




Track 08



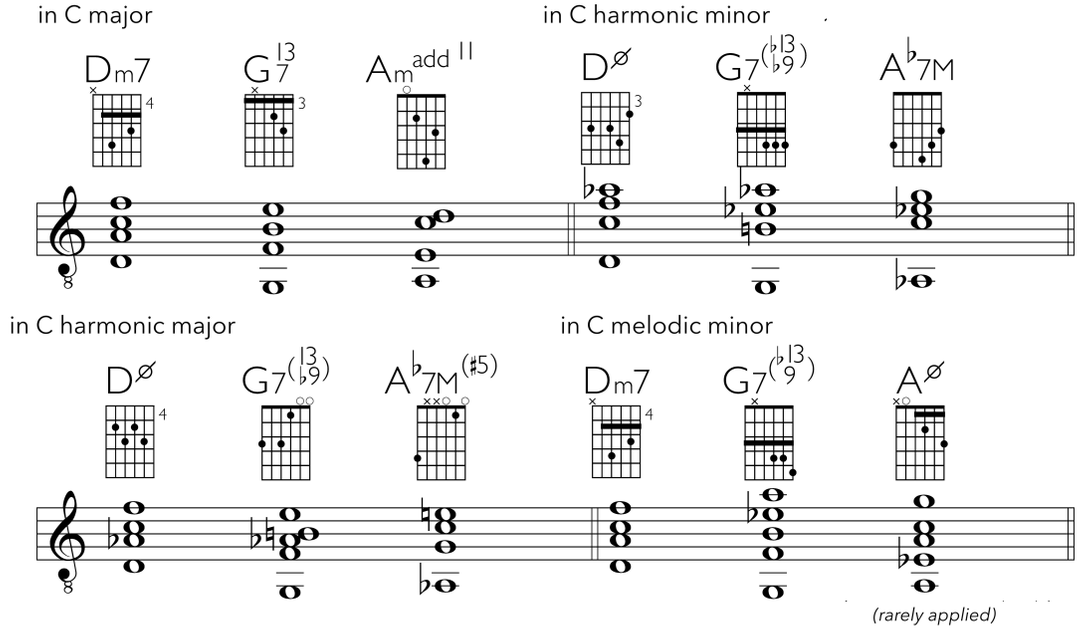




Exceptional resolutions of dominant chords

In the tonal system, a dominant seventh chord naturally resolves to its tonic in the **V-I** movement. Thus, a **G7** chord, for example, naturally resolves to **C** or **Cm**, and an **E7** chord resolves to **A** or **Am**. However, the dominant chord can also resolve in many other ways through the functional transformation of the melody's resolution note. These are the **exceptional resolutions of the dominant chord** or **deceptive cadences**[1], and their role in tonal progressions is to delay the resolution to the tonic chord or even to shift the tonal focus to other centers.

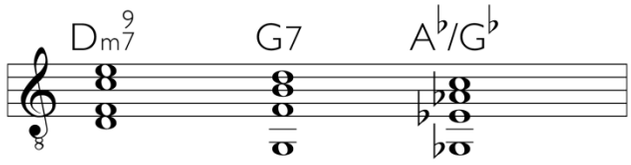
The most common deceptive cadence is one in which the dominant chord resolves to the sixth **(VI)** of major or minor scales. In this case, the functional transformation of the interval is made on the root of the tonic chord, which then represents the major or minor third of the chord used. See the following example of the **II-V-VI** movement from the four tonal scales:



Just as the root of the tonic chord can be functionally reinterpreted as the major third of a major chord, we can also transform it into the major third of a chord with a dominant structure, for

[1] *also called interrupted cadences or broken cadences.*

example. This procedure opens a new cadential possibility: the substitution of the tonic chord - C - by the modal borrowing chord Ab7. The result will be the movement Dm7-G7-Ab/Gb.



Starting from this principle and expanding the concept, we say that the resting note of the melody, in the dominant-tonic cadence, can be transformed into any other interval of the tonal harmonic structure (see chapter 'Intervals of Tonal Harmony'). It will be part of the structure of chords originating from one of the five chord families. The note where a melodic phrase end is not restricted to the root of the tonic chord and can be represented by any interval of that chord's structure.

The chords that replace the tonic can be presented in their fundamental states or inversions and, depending on the transformation performed, show their extensions and alterations.

In the various deceptive cadences, the chords used may originate from the main diatonic scale, from homonymous tonal scales, or even from different modal scales, forming the broad spectrum of borrowed chords.

Although the theoretical principle allows for the application of all types of functional transformations of the resolution intervals of a melody, in practice, not all possible chords resulting from this transformation offer an efficient cadential result. Certain harmonic structures, due to the type of interval transformation performed, result in poor or redundant cadential movements.

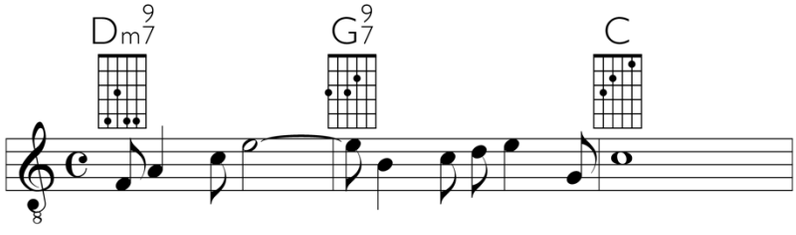
See the table below for the types of chords most used in exceptional resolutions that replace the V-I movement in C major:

transforming the root of the chord into	chord structure	resulting chord
b3	m7	Am7

3	**7M** ou **6** Dominant chord	Ab7M, Ab6, Ab7
b5	7(b5), m7(b5) or 7dim	C7/Gb, F#$^{\varnothing}$, F# dim
5	m7	Fm7
#5	Augmented triad	E(#5)
6	Major dhord **6 , 9** Minor chord **6 , 9**	Eb6$^{(9)}$, Ebm6$^{(9)}$
7dim	Diminished chord	D#dim
7	Half-diminished chord	D$^{\varnothing}$
7M	Major chord	Db7M
9	Chords: major, dominant and half-diminished	Bb7M$^{(9)}$, Bbm7$^{(9)}$, Bb7$^{(9)}$, Bb$^{\varnothing 9}$
#9	Dominant chord	A7$^{(\#9)}$
#11	Dominant chord Major chord	F#7$^{(\#11)}$, F#7M$^{(\#11)}$
13	Dominant chord **sus** e **7**	Eb^{sus}, Eb7$^{(13)}$

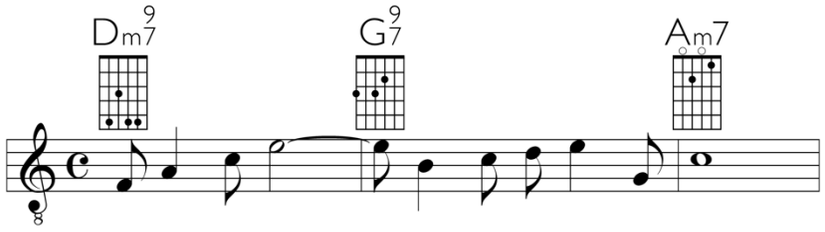
See practical examples of these functional transformations using the following melodic motif:

Resolutions in major mode – complete cadence[1]

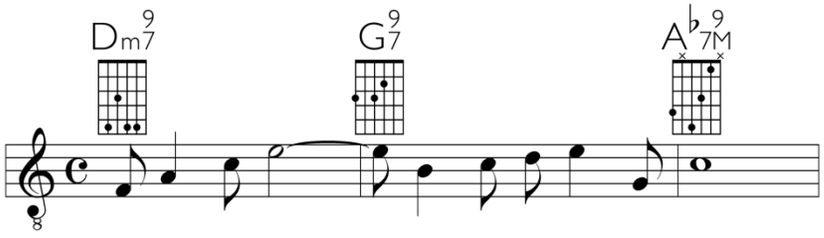


[1] *Sing the melodic pattern and apply the chords of the exceptional resolutions.*

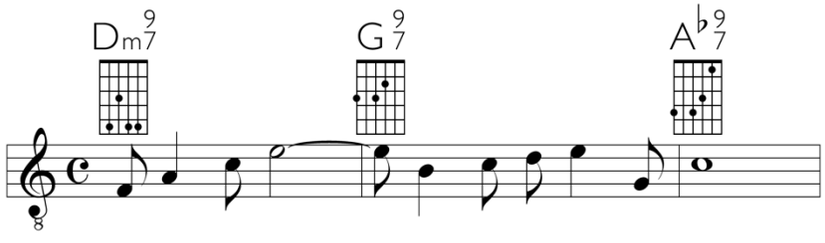
1. Transforming the tonic into a minor third of a minor chord.



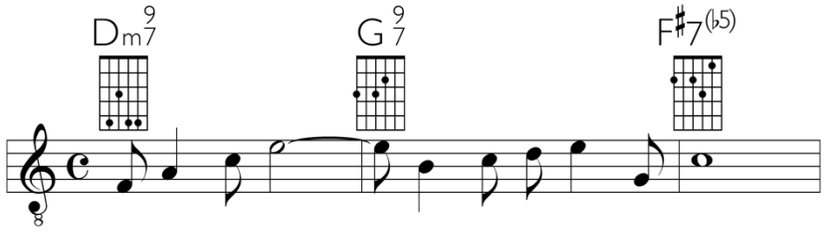
2. Transforming the tonic into a major third of a major chord



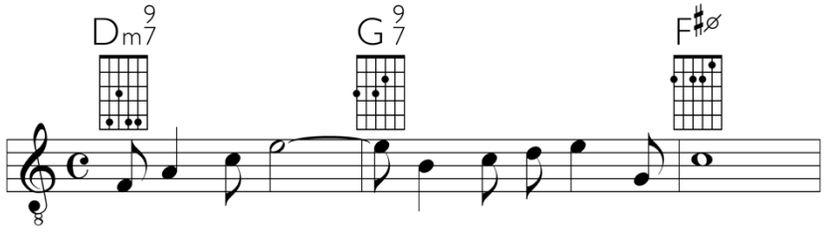
3. Transforming the tonic into a major third of a dominant chord.



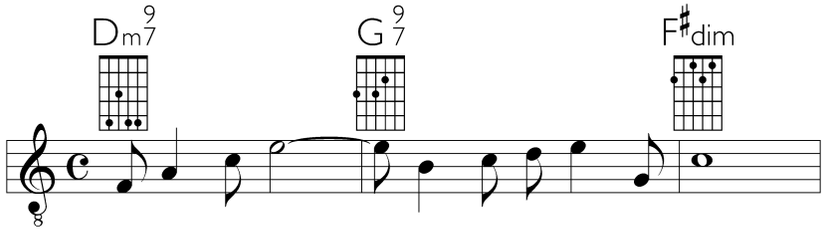
4. Transforming the tonic into a diminished fifth of a dominant chord.



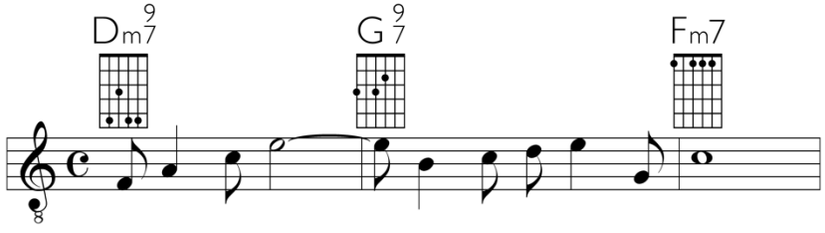
5. Transforming the tonic into a diminished fifth of a half-diminished chord.



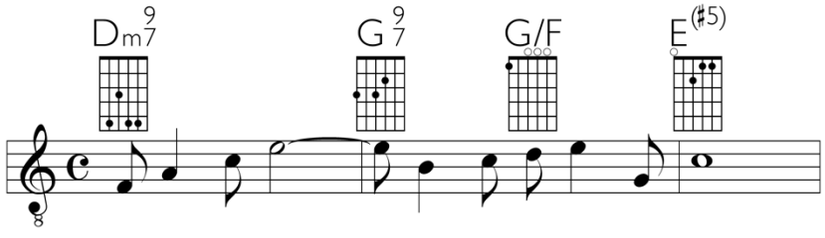
6. Transforming the tonic into a diminished fifth of a diminished chord.



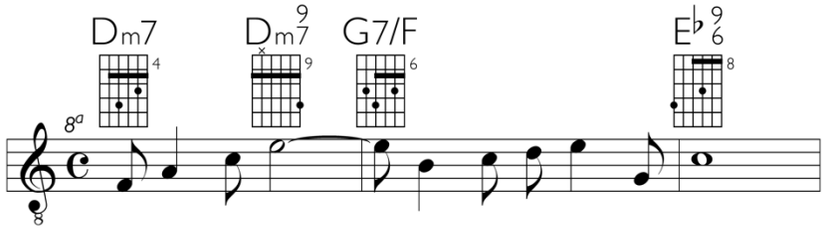
7. Transforming the tonic into a perfect fifth of a minor chord.



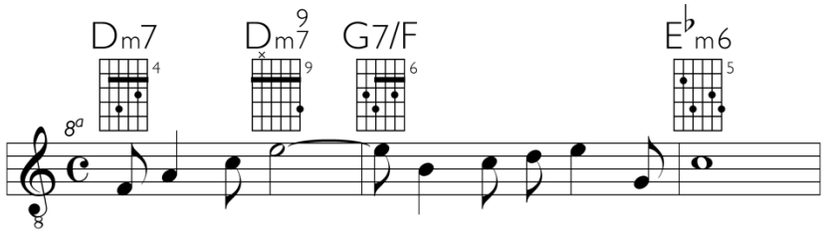
8. Transforming the tonic into an augmented fifth of a major chord.



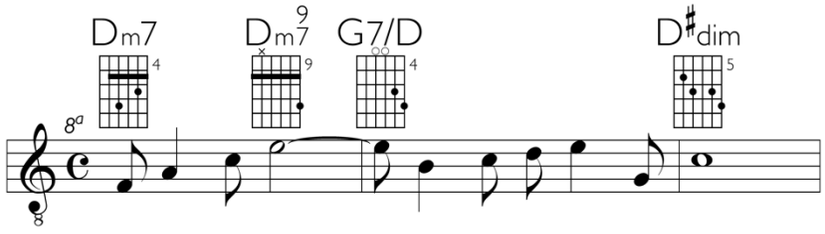
9. Transforming the tonic into a sixth of a major chord.



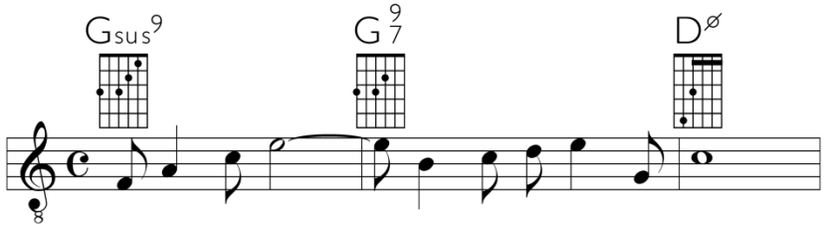
10. Transforming the tonic into a sixth of a minor chord.



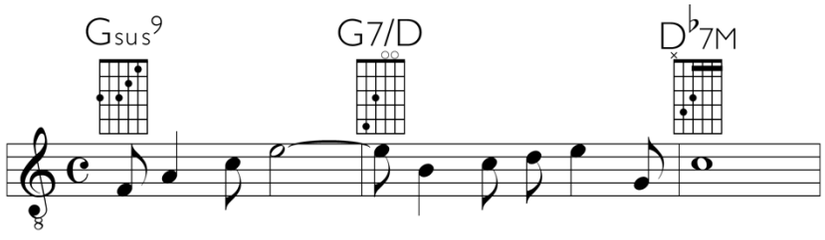
11. Transforming the tonic into a diminished seventh of a diminished chord.



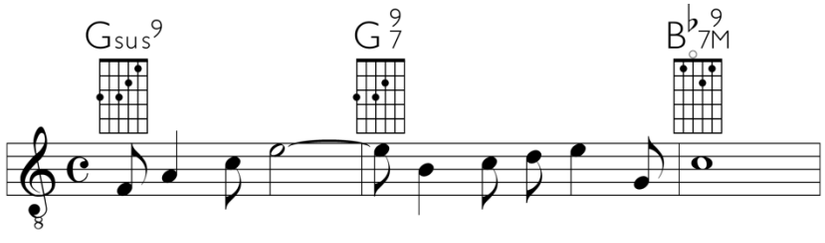
12. Transforming the tonic into a minor seventh of a half-diminished chord



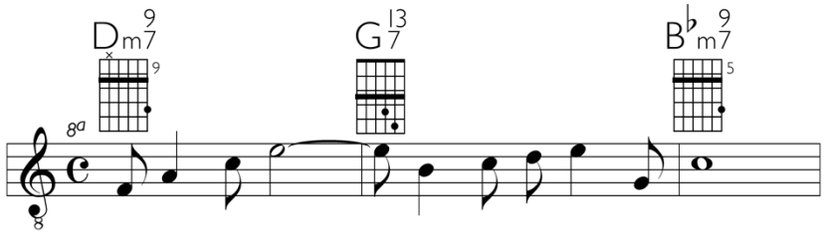
13. Transforming the tonic into a major seventh of a major chord.



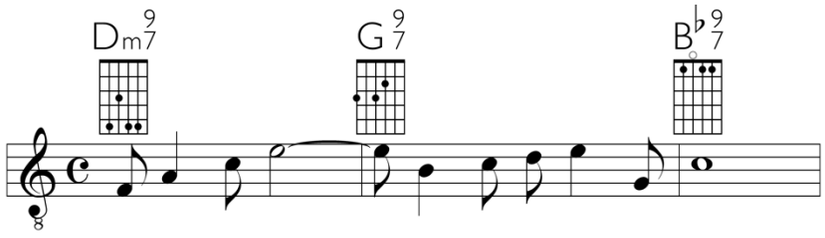
14. Transforming the tonic into a ninth of a major chord.



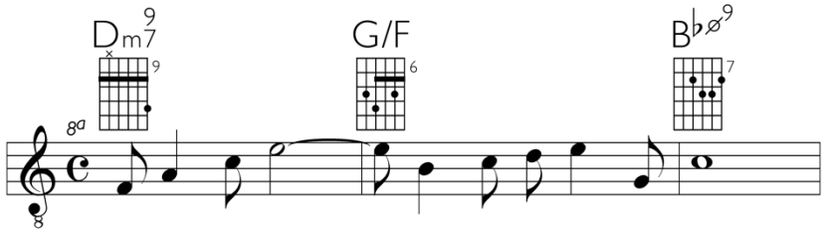
15. Transforming the tonic into a ninth of a major chord.



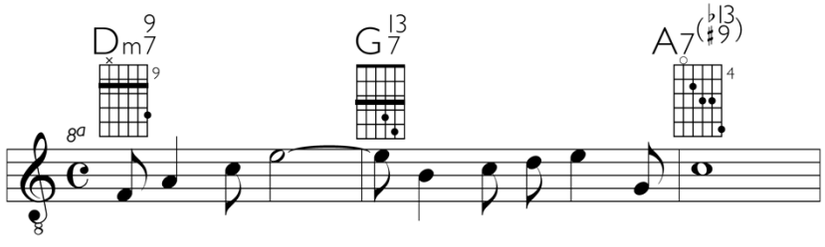
16. Transforming the tonic into a ninth of a dominant chord.



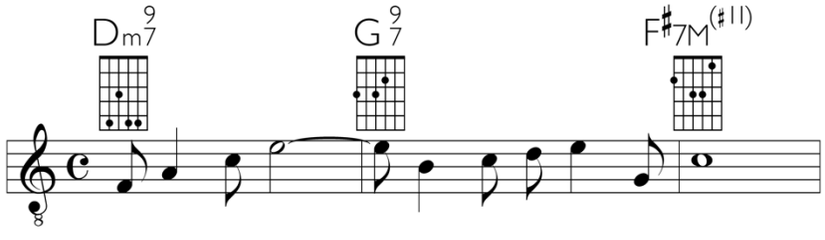
17. Transforming the tonic into a ninth of a half-diminished chord.



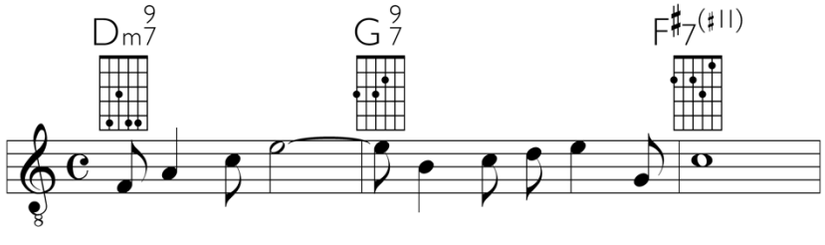
18. Transforming the tonic into a augmented ninth of a dominant chord.



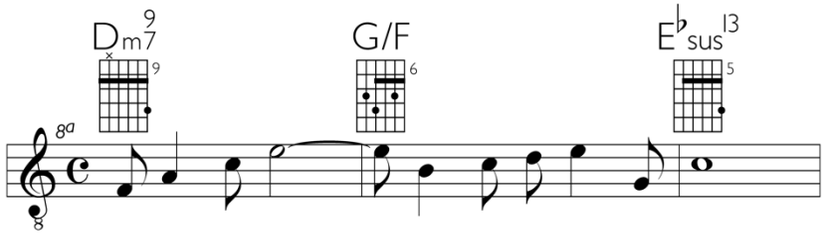
19. Transforming the tonic into a augmented eleventh of a major chord.



20. Transforming the tonic into a augmented eleventh of a dominant chord.

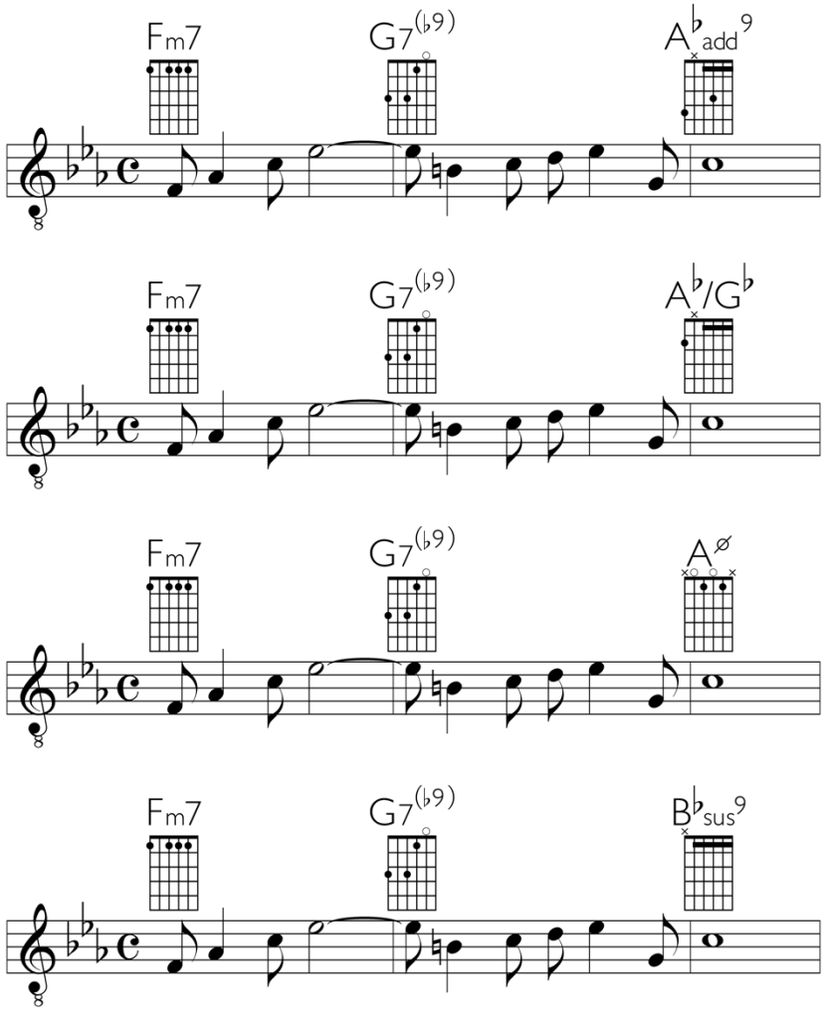


21. Transforming the tonic into a thirteenth of a dominant chord.



Exceptional resolutions in minor

In the minor mode, exceptional resolutions of the dominant seventh chord occur in the same way, that is, by transforming the resolution note of the melody into one of the intervals of the chord structure. The possibilities for application are more limited, since not all transformations yield satisfactory results. See how the same cadence model looks when applied to the same melodic motif in C minor.



Exercises:

1) Practice the main exceptional resolutions of the dominant chord in the following situations.

a) Functional transformation of the root of the tonic chord into a major ninth of a dominant chord in the key of A-flat major.

b) Functional transformation of the root of the tonic chord into a major seventh of a major chord in the key of F major.

c) Functional transformation of the root of the tonic chord into a diminished fifth of a half-diminished chord in the key of D major.

d) Functional transformation of the root of the tonic chord into an augmented ninth of a dominant chord in the key of C major.

e) Functional transformation of the root of the tonic chord into a thirteenth of a dominant chord in the key of G major.

f) Functional transformation of the root of the tonic chord into a perfect fifth of a minor chord in the key of E-flat major.

g) Functional transformation of the root of the tonic chord into a major third of a dominant structure in the key of A major.

h) Functional transformation of the root of the tonic chord into a diminished fifth of a diminished chord in the key of E major.

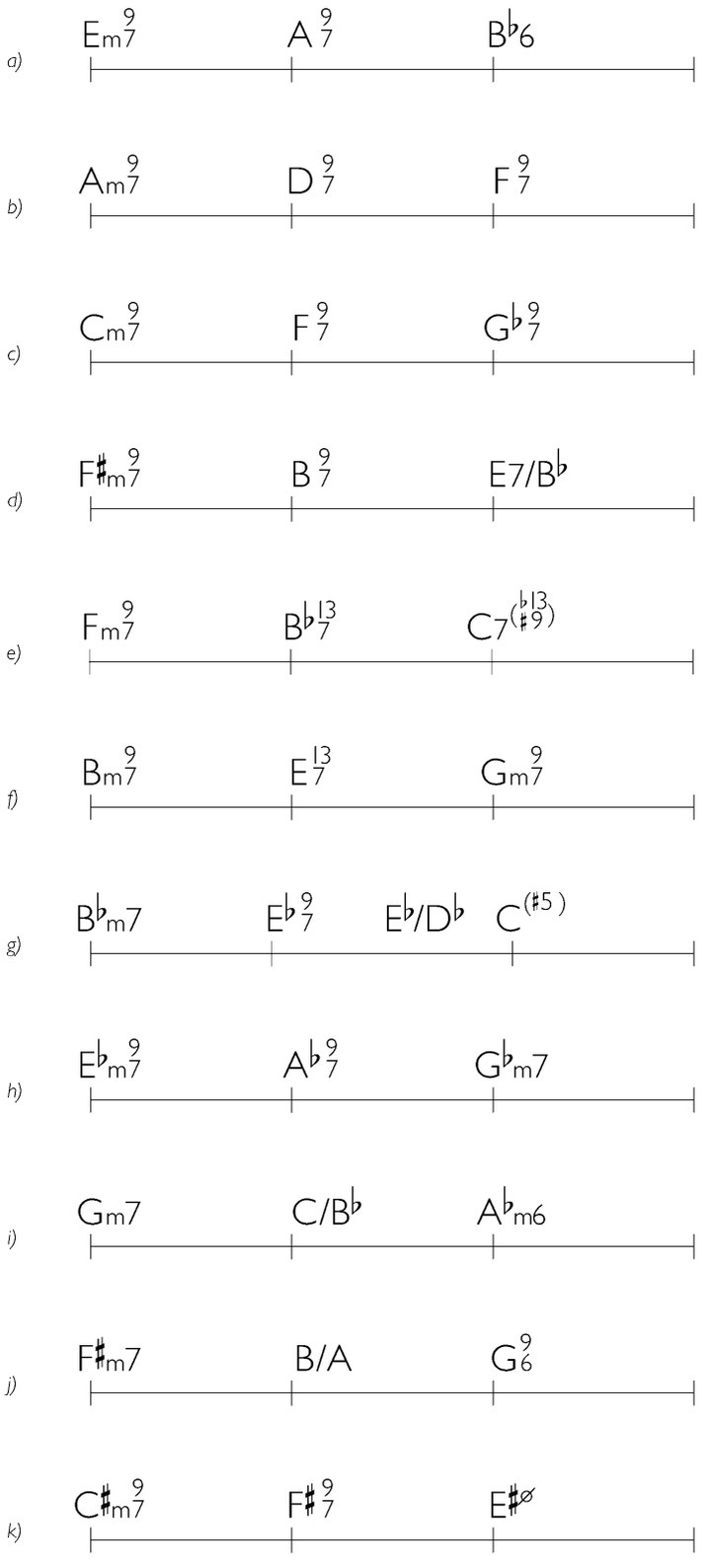
i) Functional transformation of the root of the tonic chord into a sixth of a major chord in the key of B-flat major.

j) Functional transformation of the root of the tonic chord into a major seventh of a major chord in the key of D-flat major.

k) Functional transformation of the root of the tonic chord into a ninth of a minor seventh chord in the key of B major.

l) Functional transformation of the root of the tonic chord into an augmented eleventh of a dominant chord in the key of G-flat major.

2) Write the sequence in four or five voices, as needed, for the following exceptional resolutions.



Exercícios – Percepção e Análise

Track 09

Track 10

Track 11

Track 12

Track 13

Track 14

Track 15

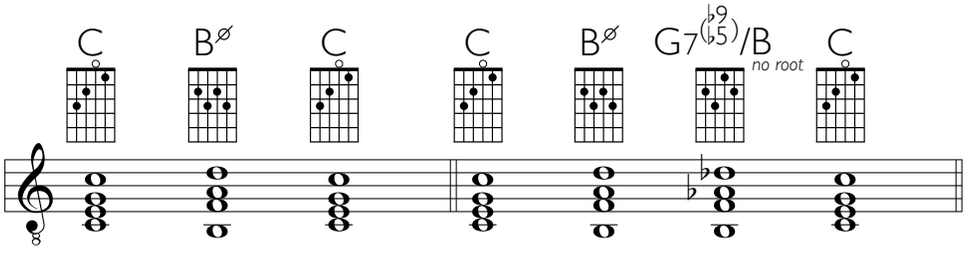
Track 16

Voice leading

One of the main issues related to Tonal Harmony is the broad understanding of voice movement in chord progressions. Whether diatonic or chromatic, the voice progression of chords is based on the movement-rest relationship that guides them. In every tonal process, the tonic chord is always the point of convergence for all other chords, from where we start and to where we always return. This relationship can be represented by a simple I-V-I cadential movement of a single tonal scale. It can also be expanded by employing different chromatic tensions, generated by secondary dominants (and their different complements), by borrowing chords from homonymous tonal scales, and by all kinds of alterations arising from different modal borrowings. The connection between tetrads, triads, and extensions, as previously seen, can be associated with a kaleidoscope, where a certain number of glass beads, through the reflection of light in three angled mirrors, generates a wide variety of geometric designs. In tonal procedures, the simple alteration of one of the notes in a chord generates a particular type of instability that distances it from the tonic. The great art of tonal harmonization is to make this process of distancing and returning, through the best chord choices and correct progressions, result in simplicity and fluency. In short, all tonal practice revolves around the attractive force exerted by the tonic chord and the resolving strength of the dominant chord. These two functions, added to the subdominant function, form the tripod that balances the entire system.

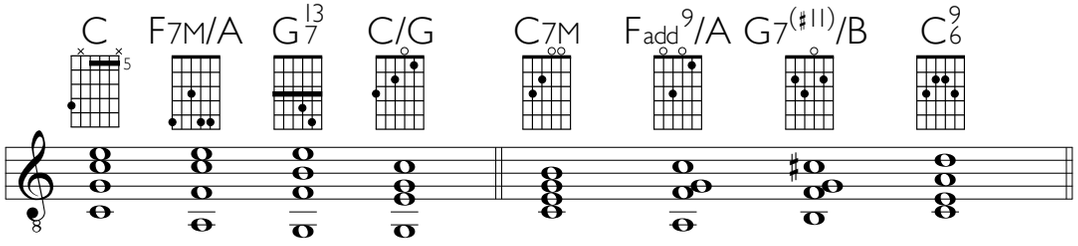
Here are some examples of moving away from tonic and returning to it in diatonic and chromatic progressions:

1. In direct relation to the dominant region[1].

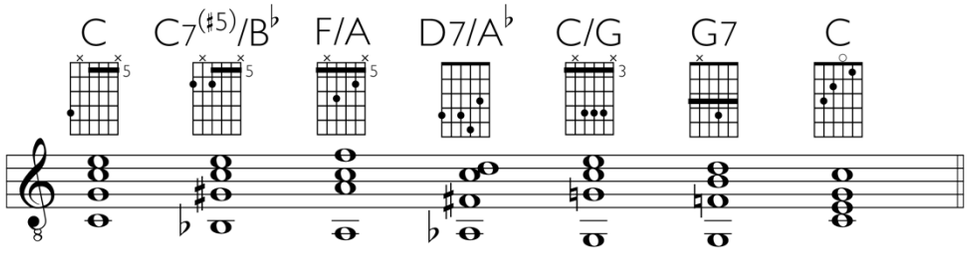


[1] *The examples are based on tonal scales, secondary dominants, altered chords, and modal borrowings.*

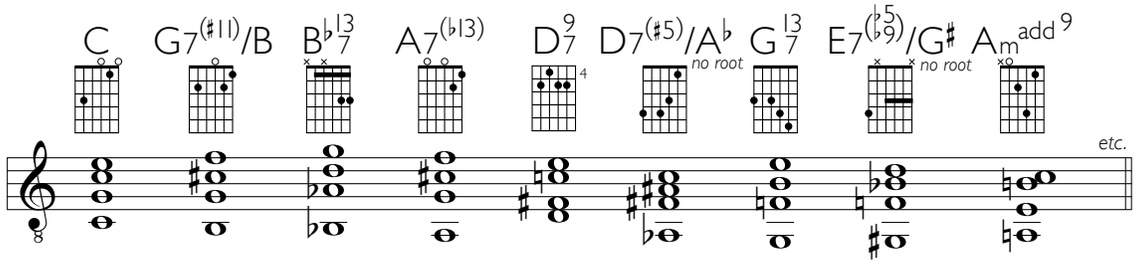
2. In chord progressions involving the subdominant and dominant.



3. With the addition of secondary dominants

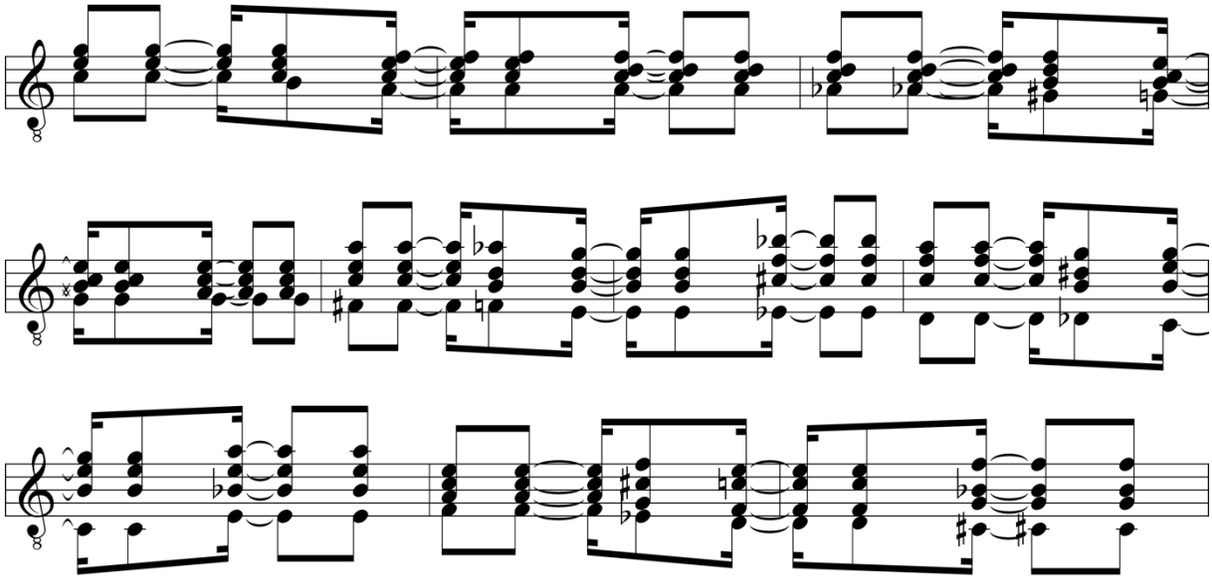


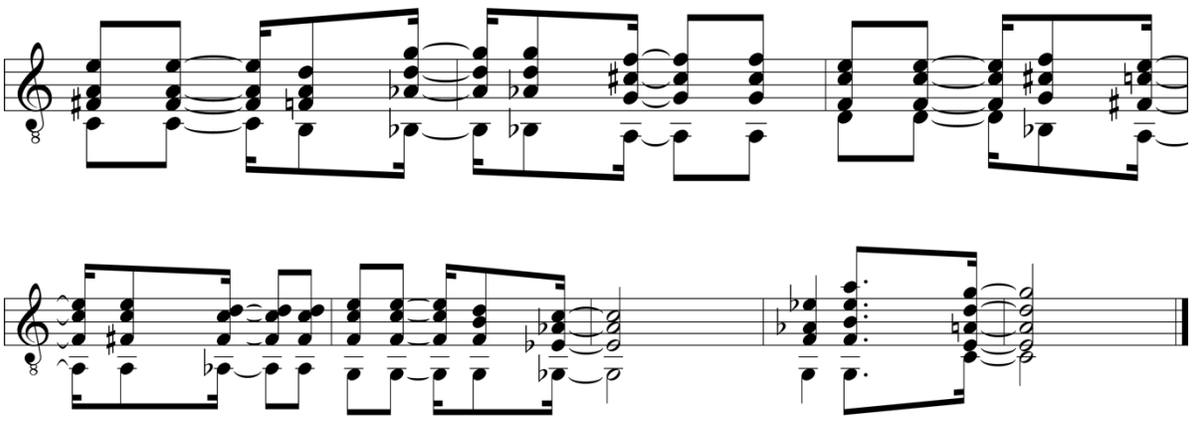
4. Through harmonic progression with secondary dominants and their alterations.



5. With borrowed chords

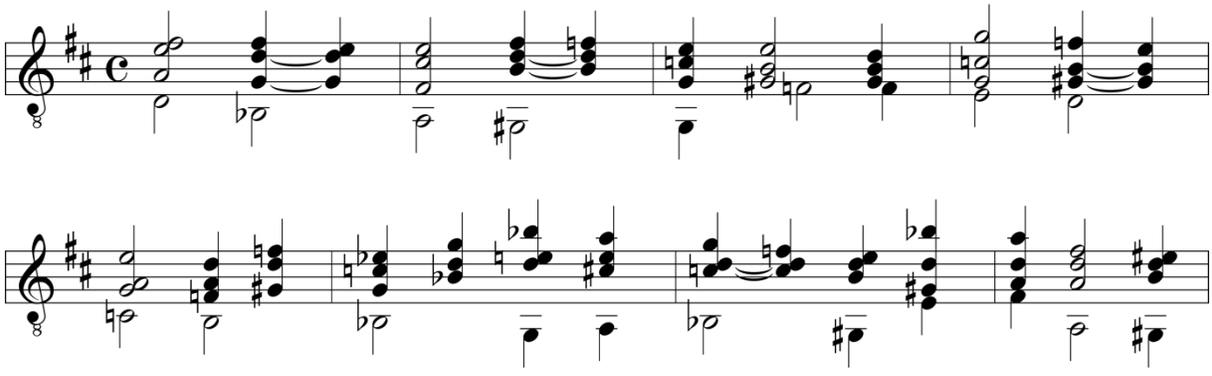
Track 17



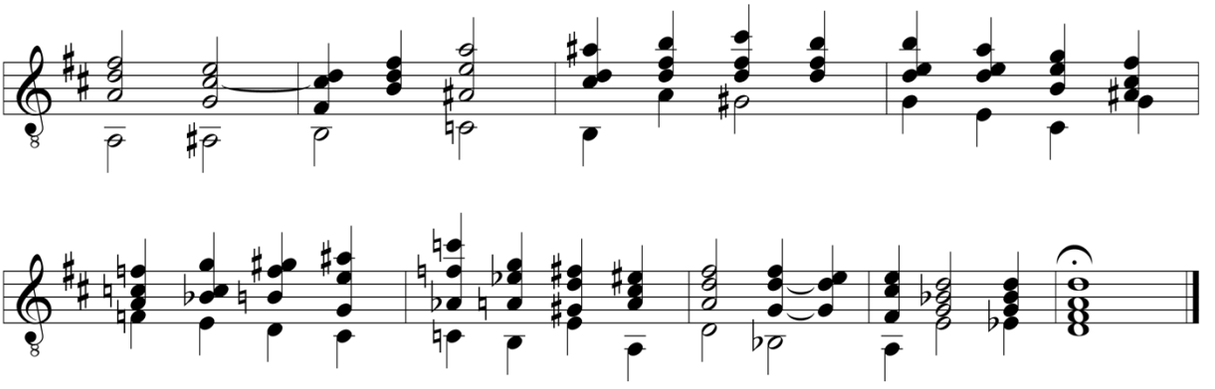


On the other hand, certain chromatic tensions practiced more freely can be obtained using "vagrant chords"[1], which lead harmonic progressions to distant tonal planes. Often, after moving away from the main tonal center through a chromatic process, we see the harmonic process stabilize at another tonal center, and when this happens, we observe a type of procedure called **modulation** *(see corresponding chapter)*. There has always been a consensus in tonal musical practice regarding maintaining the tonic as sovereign during short or long passages. No matter how far the chords move away from it, the tendency is always to return to the tonic. Therefore, whether in a simple popular song or in a great work, such as a symphony, what we can observe is that there is always a basic tonality that gives unity to the composition. So, no matter how many processes of moving away from the tonic may occur, there is always an obligatory return to it.

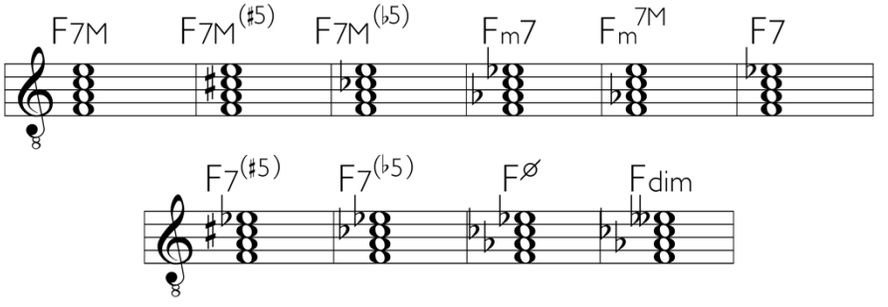
Track 18



[1] *"Vagrant chords" or "errant chords" - terminology adopted by A. Schoenberg to designate certain types of altered chords that, according to him, wander like nomads between tonal chord progressions without it being possible to define their exact function.*

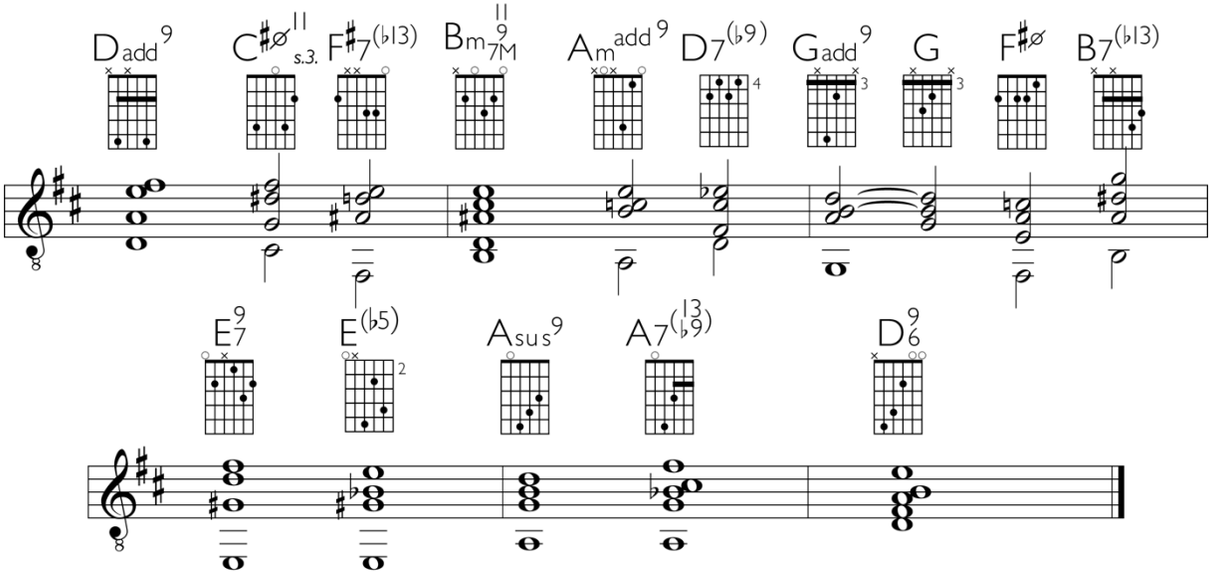


The possibilities for structuring tetrads should always be related to one of the five chord families, as seen previously. Within each family, there are some possible variations, but the range of possibilities consists of 10 tetrads. Therefore, a single tetrad has a finite and determined number of structural possibilities, and we must be limited to them. Let's take as a reference a tetrad built on the note F using only natural notes. The resulting tetrad will be an **F7M** chord, which can, circumstantially, be transformed into a series of other structures. The inclusion of the extensions opens countless other possibilities, but this does not affect the basic function that tetrads determine. In any case, all tension, whether in the tetrad structure or in the complementary intervals, the extensions, must be led to rest within the scale. We know that in modulating processes there are notes of temporary rest that change quality, and, for this reason, the harmony can remain erratic and undefined for a long period.

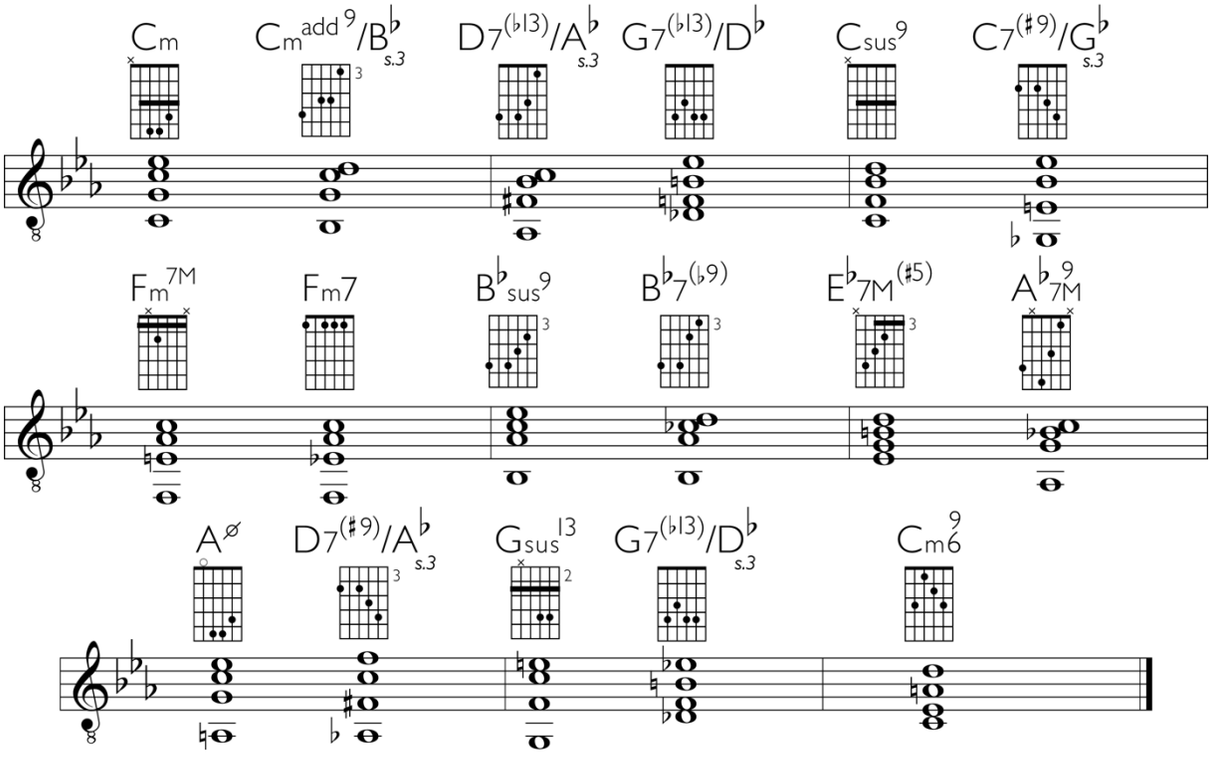


Awareness of the progressions and resolution tendencies of chord voicings is the basis for a profound understanding of this subject. Below, we will see some examples of chord progressions based on renowned works from the European tradition of the late 19th and early 20th centuries, as well as some harmonizations characteristic of popular songs.

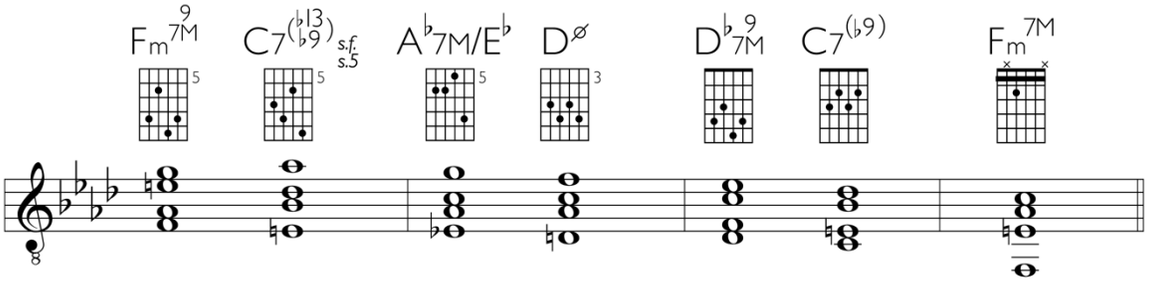
Example 1



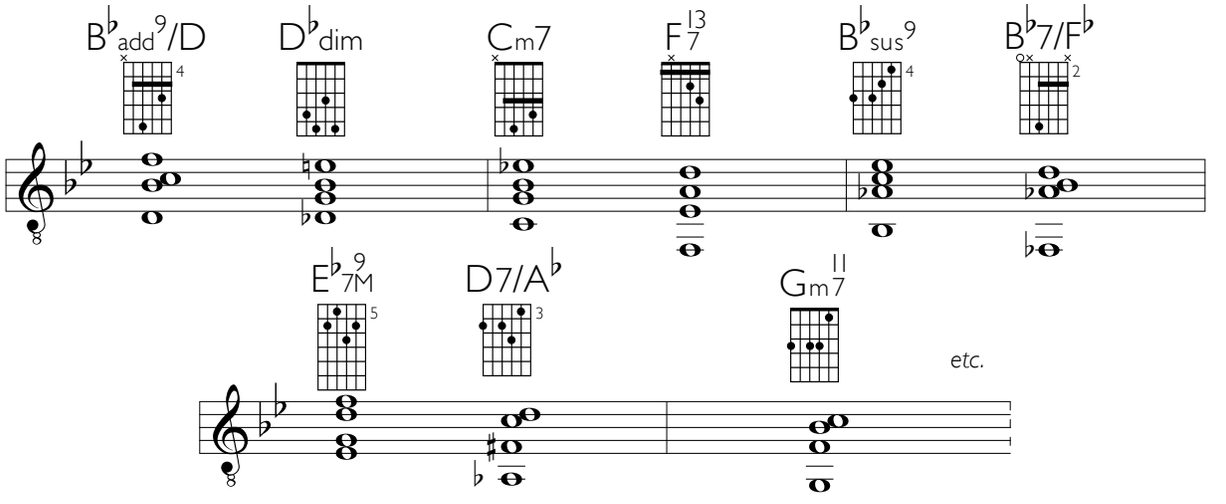
Example 2



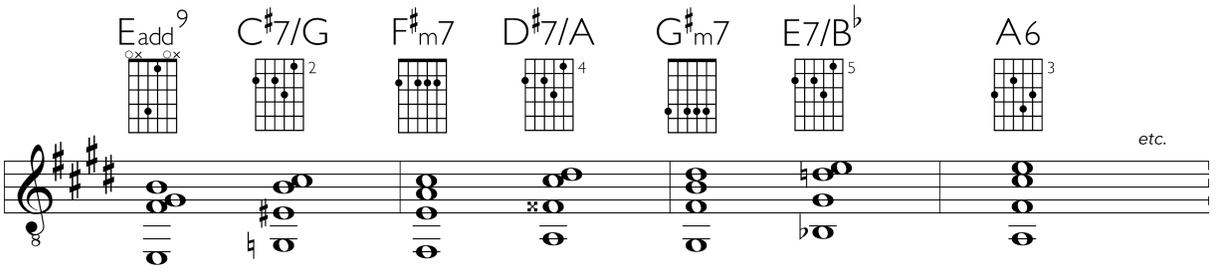
Example 3



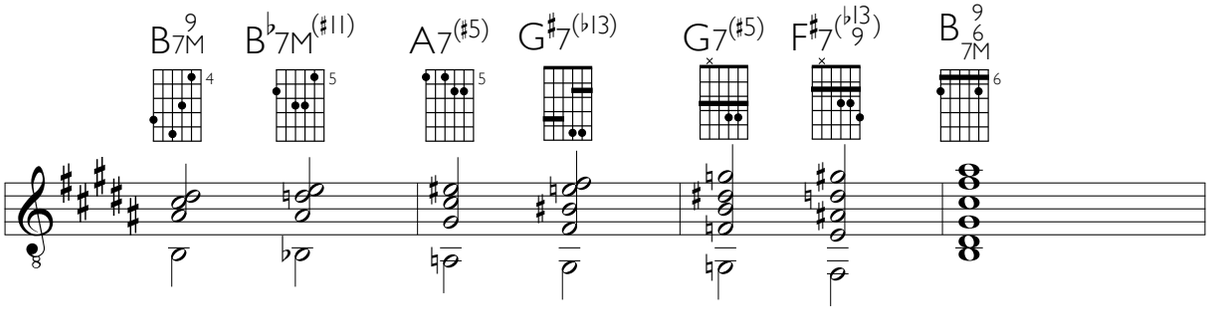
Example 4



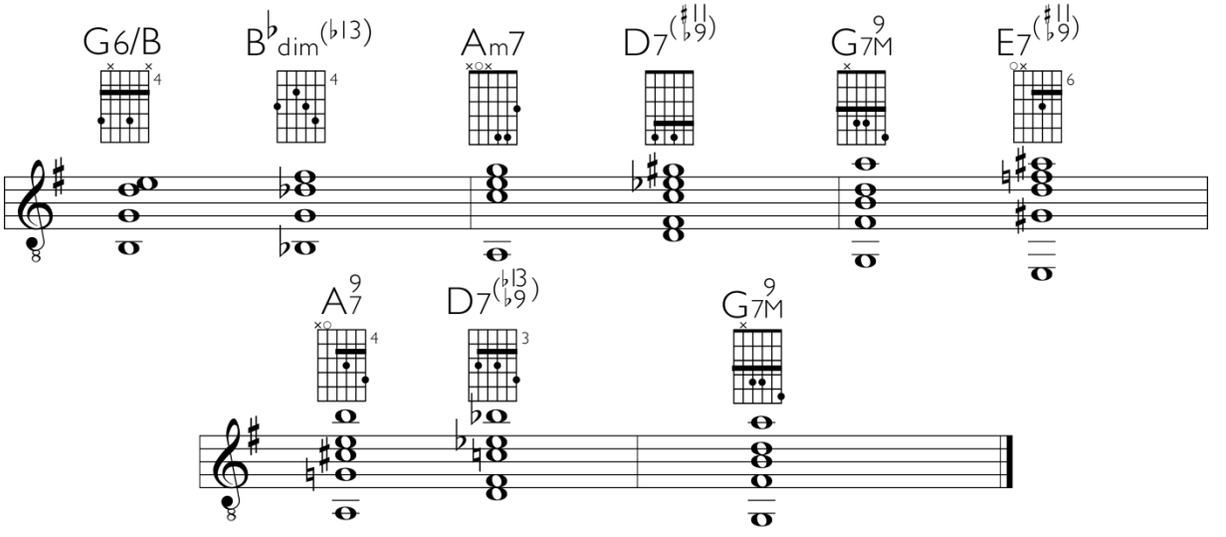
Example 5



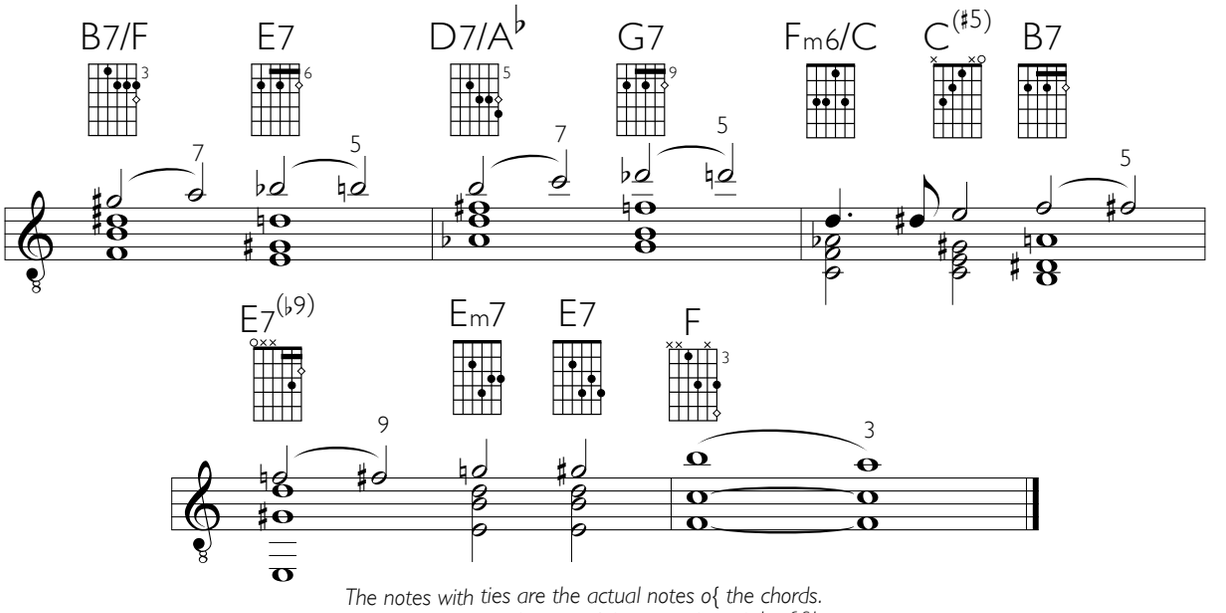
Example 6



Example 7

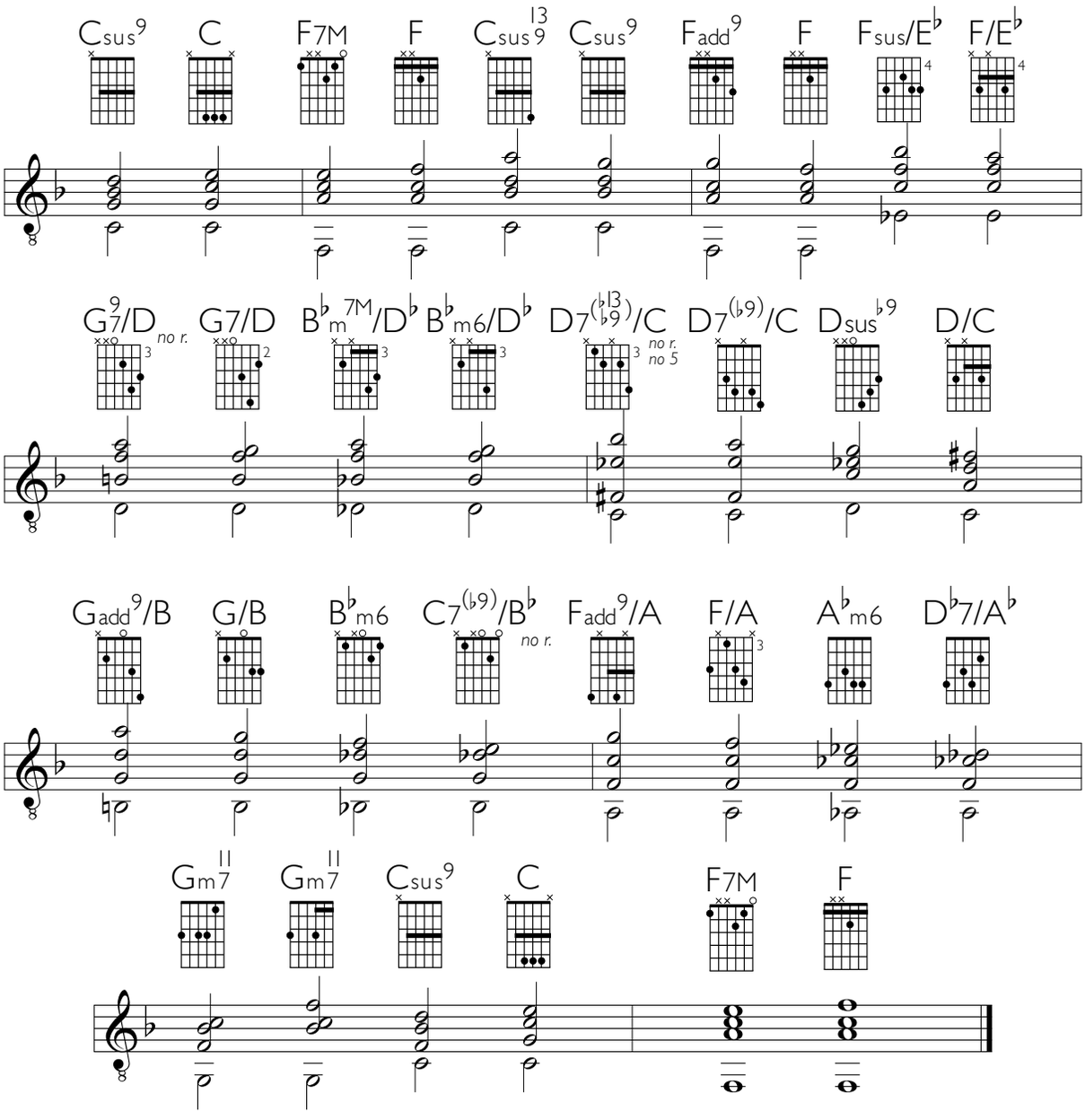


Example 8



The notes with ties are the actual notes of the chords.
Pay attention to the ties of the seventh and the fifth.

Example 9

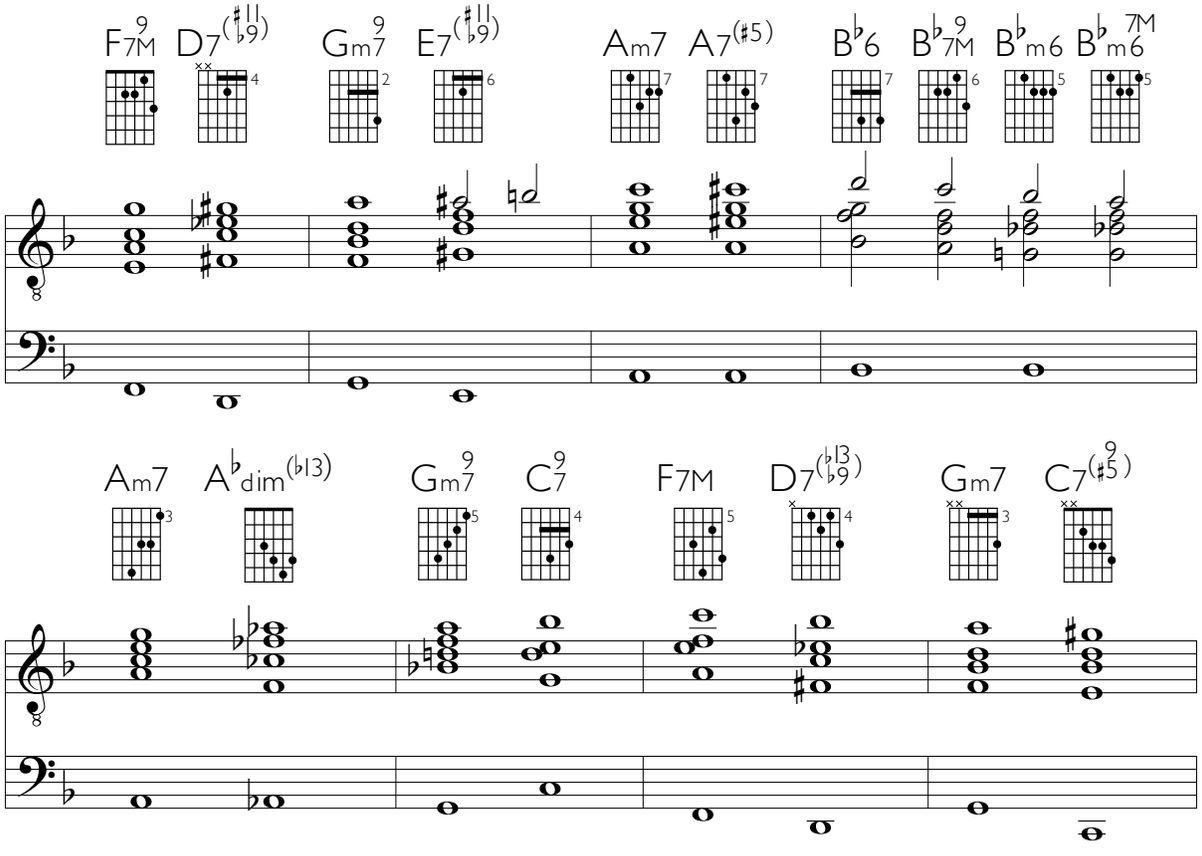


We know that a good harmonic plan is one where the notes of the chords connect to each other always by the shortest path. This form of melodic connection between the notes of the chords, based on economy of movement, is the principle that governs good chord progressions. In chord changes, the common notes should be maintained and the remaining notes moved by the shortest path.

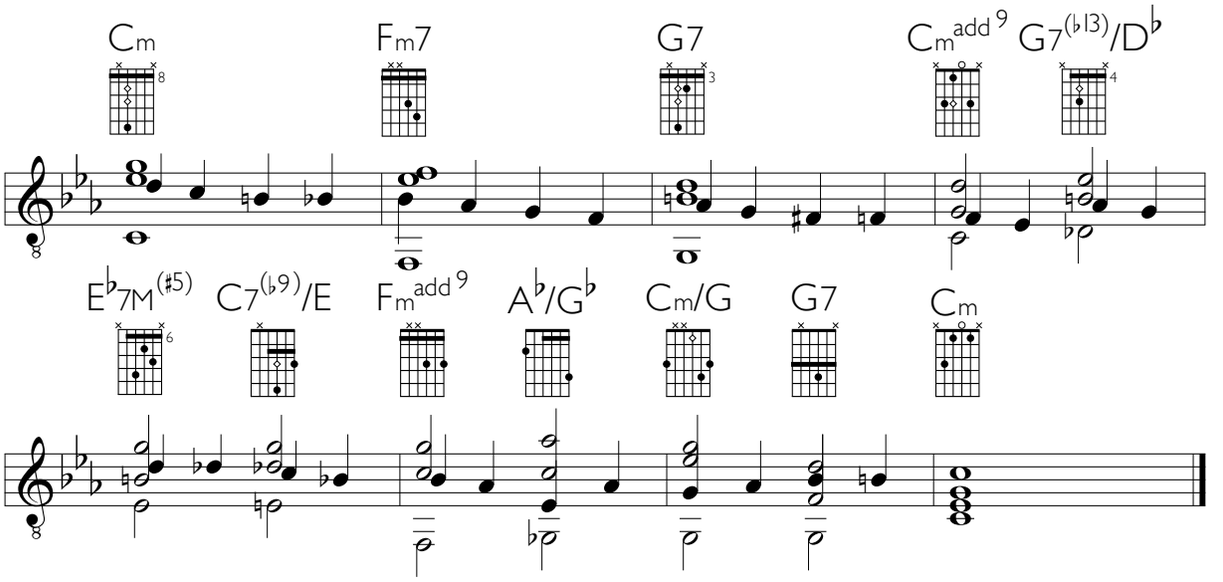
On the other hand, when we analyze an isolated melody, what makes us judge its richness is the variety of intervals and the rhythmic nuances that compose it. A rich melody is one in that there

is considerable intervallic variation, from low to high, as well as significant exploration of rhythmic possibilities. It is correct to say that each voice connected in chord progressions develops its own melody without, however, submitting to quality parameters that define it. When we highlight the movement of one of the voices in chord progressions, establishing a kind of second voice with the main melody, we are applying the technique of counterpoint. This counterpoint, done with the melody of a song, can be placed in any of the four voices of the chord progression, but its most frequent occurrence is in the higher voice. In applying this technique, the bass of the chord is often omitted on the guitar, assuming that the bass line is played by another instrument, a double bass, for example. In the development of each counterpoint line, it is also important to know the possibilities for extending and altering the chords to obtain more chromatic options in the progressions. Here are some different types of this technique:

Track 19 – In the highest voice:

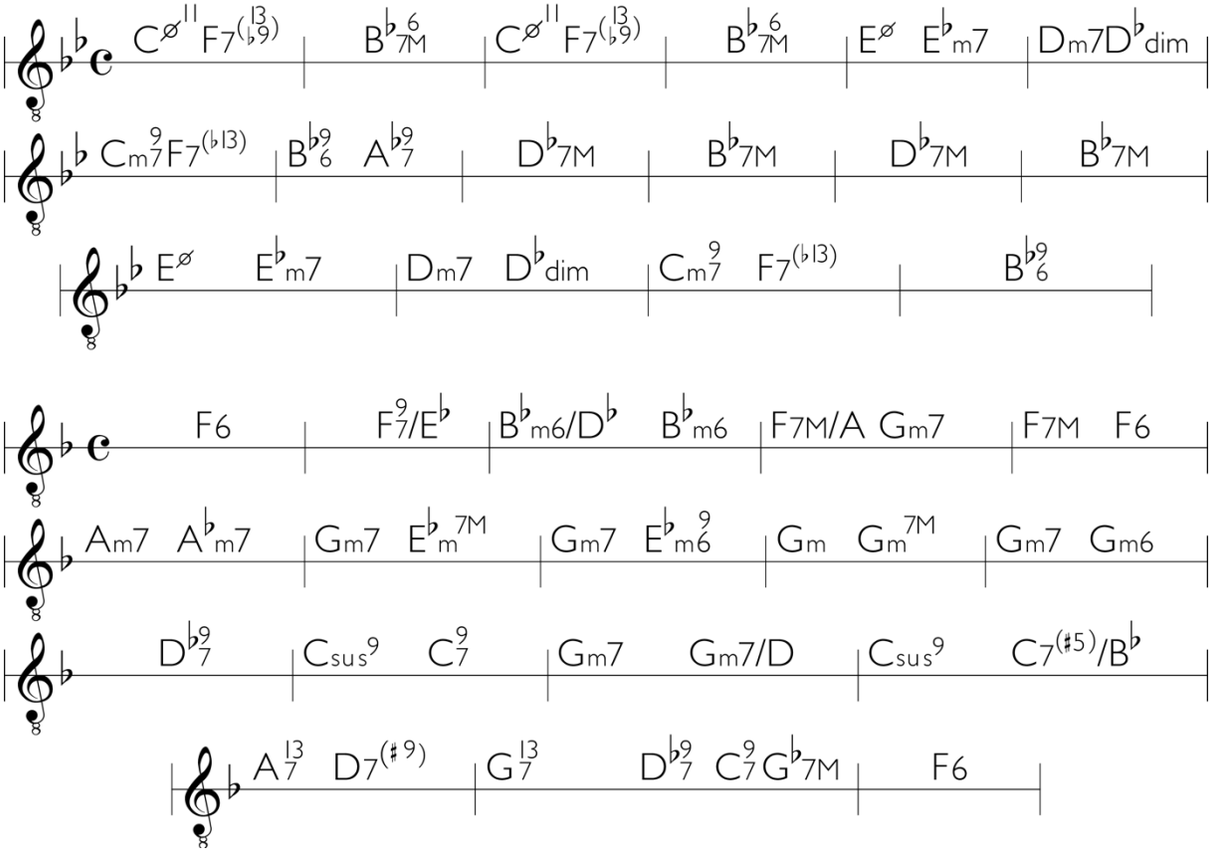


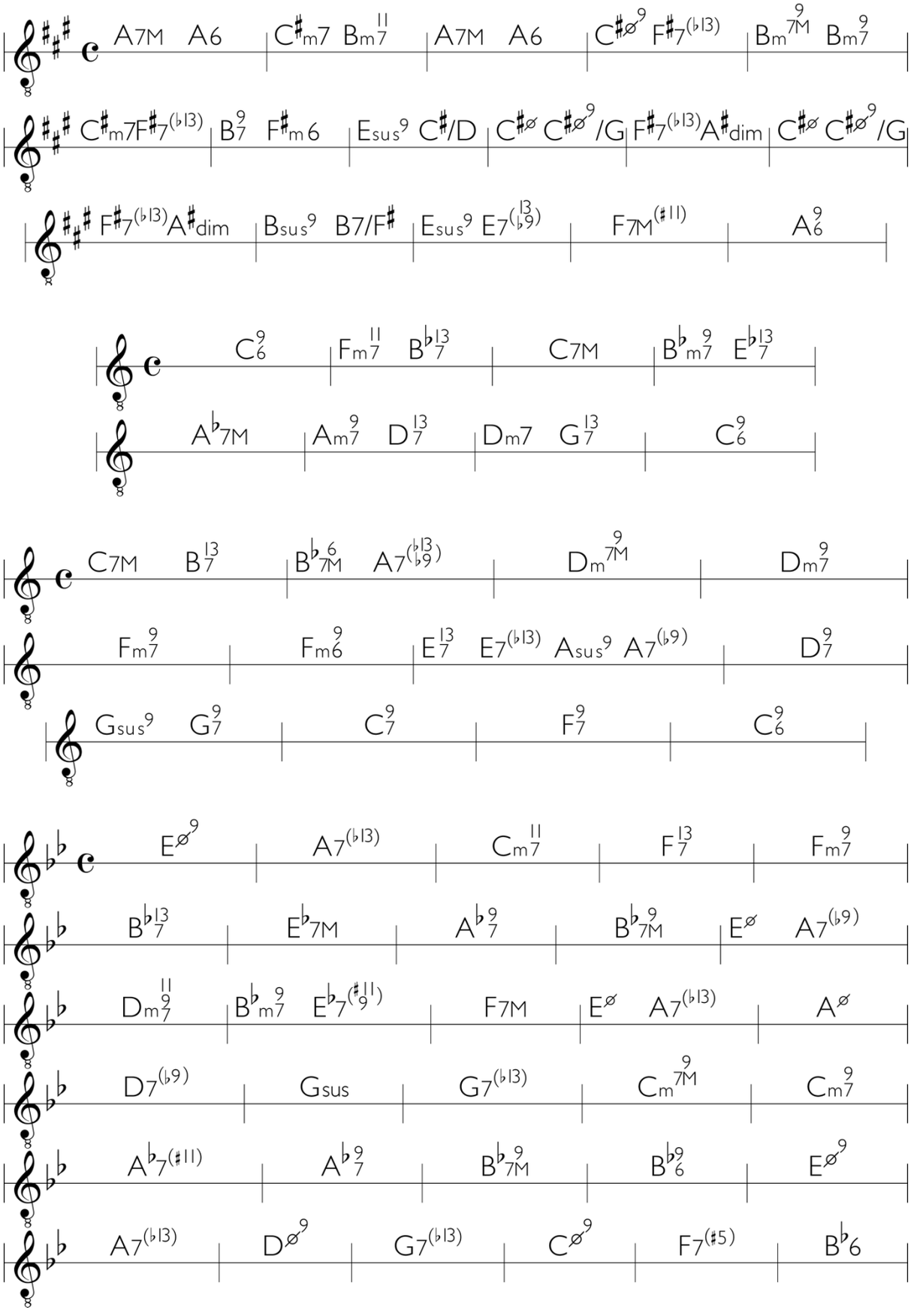
Track 20 – In the intermediate voices:



Exercises:

1. Link the chords of the following chord progressions and explore the technique of counterpoint lines:

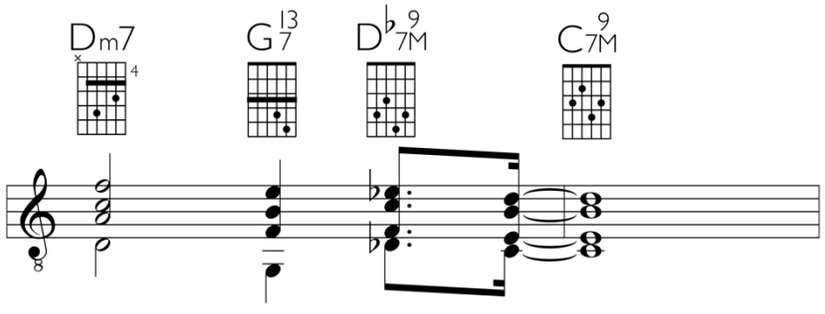




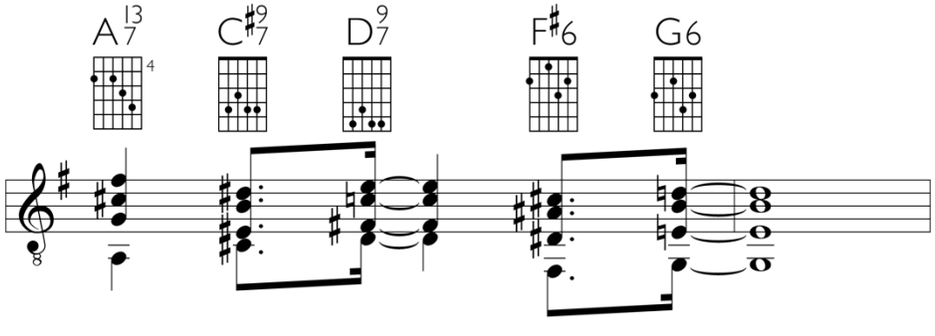
Resolution of chords by chromatic progression

This is a characteristic procedure of guitar playing originating from the blues. The guitar is an instrument with complex fingering, which does not allow us to maintain coherence in voice leading over longer passages. The parallel movement of chord notes is part of its nature, and, even if from a theoretical perspective this is not the best form of chord progression, the popularity of this instrument has made this practice established. A special type of parallel chord progression deserves attention and emphasis, as it has influenced other forms of harmonic writing. This is the case of chords that approach the resolution chord chromatically through the ascending or descending parallel movement of their voices. This approach, made by the chord that is located exactly a half step above or a half step below the resolution chord, is introduced into the harmonic discourse to reinforce the cadential movements. These chromatic approach chords do not have a clear tonal function, but, like altered dominants, they create tension in chord progressions, polarizing with the main chords. They are also called **appoggiatura chords**.

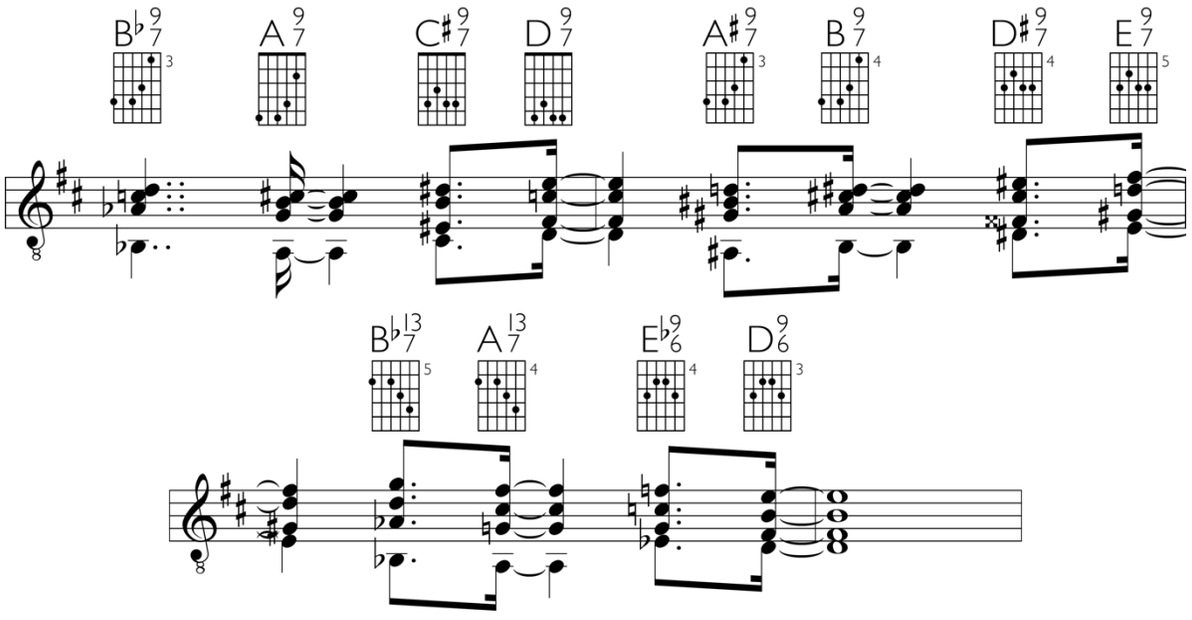
Track 21 – Descending chromatic resolution:



Track 22 – Ascending chromatic resolution:



Track 23 – Mixed chromatic resolution:

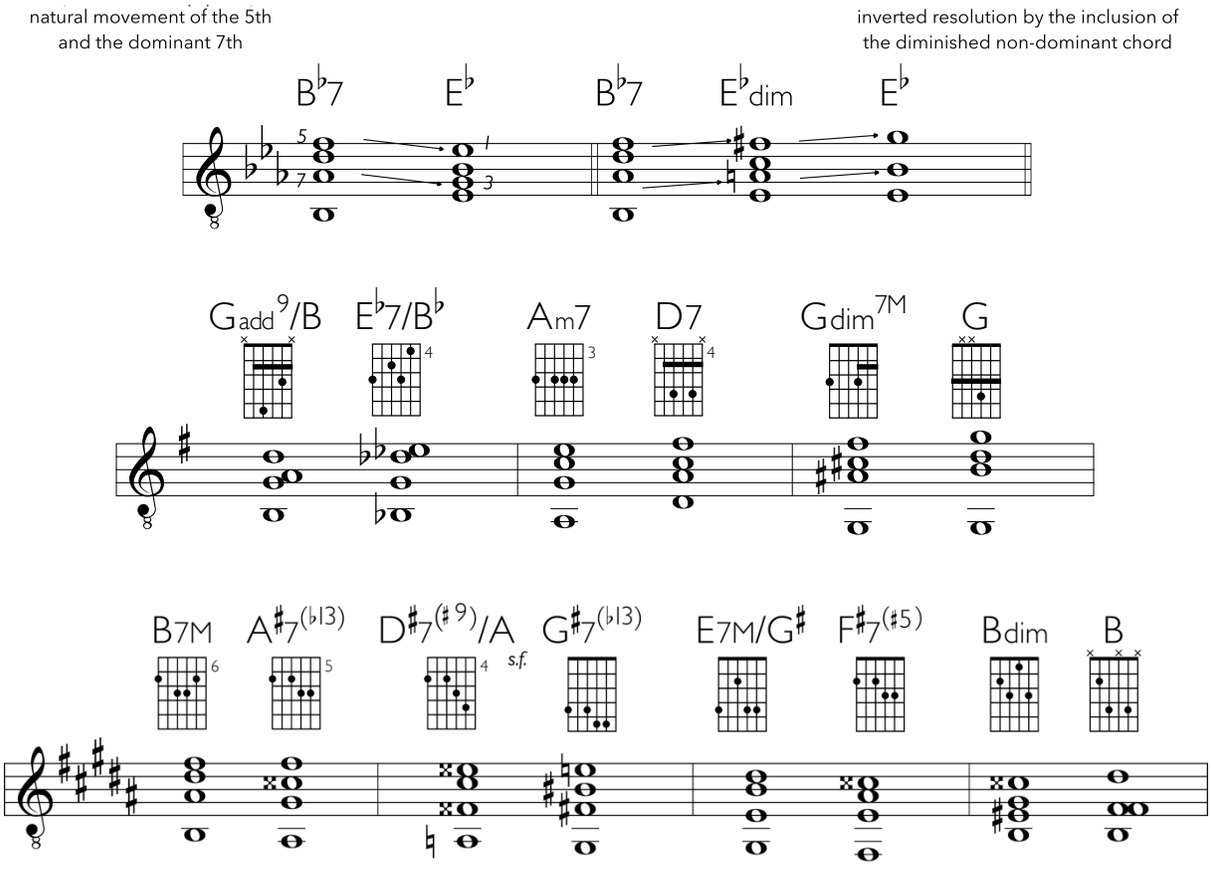


Non-dominant diminished chord

The non-dominant diminished chord is a type of chord that, in tonal sequences, connects the tonic and subdominant functions. These connections are made by the ascending or descending chromatic movement of two notes of the tonic function, which accommodate themselves to two other notes of the subdominant function, and vice versa. The non-dominant diminished chord is a linking chord between these two harmonic functions and is not subject to any gradual analysis. Due to its symmetrical structure of superimposed minor thirds, the diminished chord has acquired very particular characteristics throughout the complex and intricate path of tonal harmonic language. It has become a kind of chameleon of harmony, "a wandering chord that has no home of its own nor domicile… everywhere it is entitled to citizenship without, however, belonging anywhere: a cosmopolitan or a vagabond!"[1] Schoenberg's almost philosophical interpretation of the diminished chord not only gives us the theoretical dimension of the role this chord plays in harmonic progressions but also the effect it has on listeners. Through the enharmonic reinterpretation of its intervals, the same diminished chord can lead to different situations, many of them surprising.

[1] *Arnold Schoenberg – Harmonielehre – Universal Edition, Vienna, 1922.*

One way to use the non-dominant diminished chord is to place it as an intermediate chord in dominant-tonic cadences. In this way, the diminished chord delays the resolution of the tonic by creating a chromatic approach with two notes of the triad of that function. The other two notes that complete the tetrad maintain an enharmonic relationship with the notes of the underlying diatonic scale.



Exercises:

1) Apply the concept of chromatic resolution to perfect cadences in different keys.

2) Introduce chromatic resolution chords into harmonic structures that feature cadences with secondary dominants.

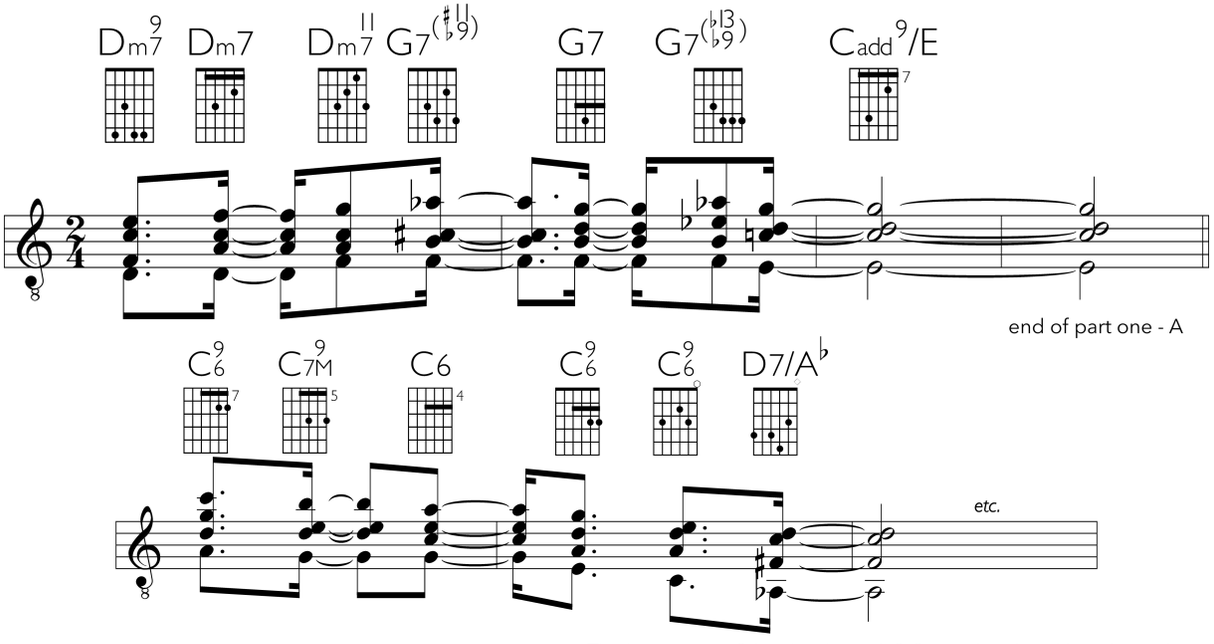
3) Apply the concept of chromatic resolution to harmonic structures in standard themes.

4) Apply the non-dominant diminished chord as an intermediate chord in dominant-tonic cadences of standard melodies.

Turnaround cadences

Turnaround cadences are understood as the cadential movement that prepares for the repetition of the melody of one of the parts of a popular song, which often has a binary formal structure and a unitonal harmonic plan. The binary form is represented by two distinct parts – A and B – and the unitonal harmonic structure is one in which there is no change of tonality, especially within each part.[1] This means that each part of the song can begin and end on the tonic chord, frequently without melodic movement, for a couple of measures. In these sections, simply maintaining the tonic chord can result in monotony and redundancy. See, in the example below, a model of a standard melody in which there is no melodic movement in the last two measures of one of the parts.

Track 24



The bass notes of the chords are left free to be played by a bass player

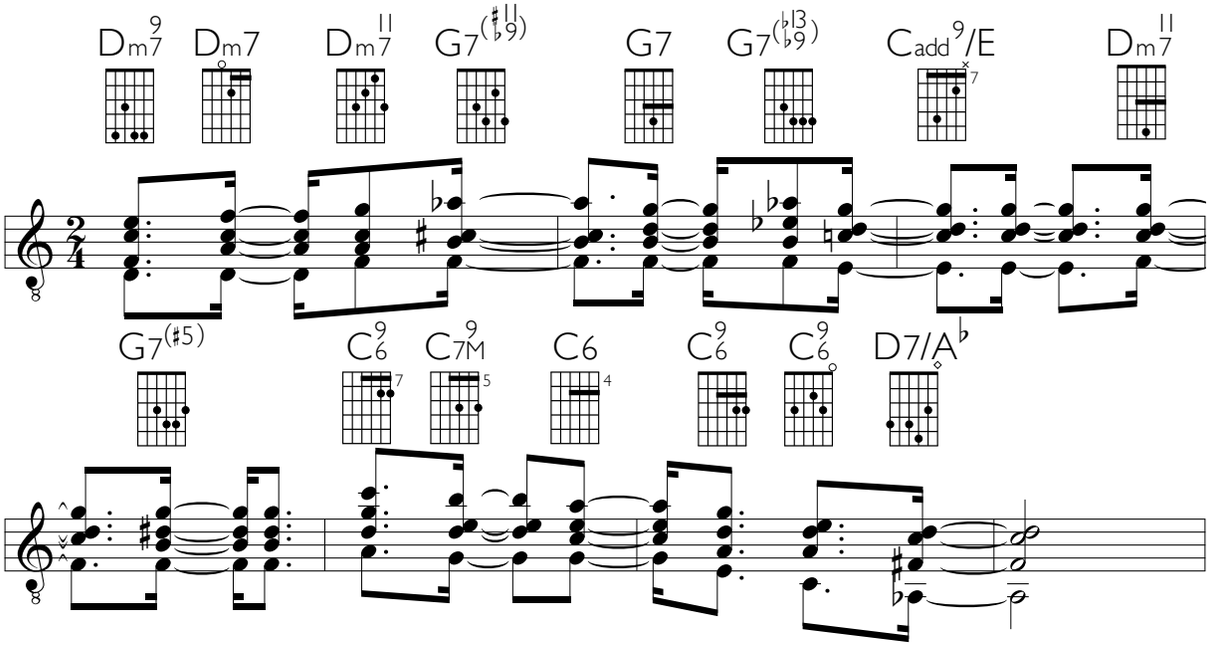
It is common for harmonizers to prepare the restart of the theme by inserting some chords to make the space where there is no melodic occurrence more attractive. When the progression makes a turn to return to the tonic chord, it is called a turnaround. The simplest option to generate

[1] *Sometimes, the two parts of the song are in similar keys, such as relative or homonymous keys.*

harmonic movement in this return to the theme is done through a perfect cadence (V-I) or a complete cadence (II-V-I), creating a moment of instability that reinforces the return to the tonic.

IIm7 – V – I

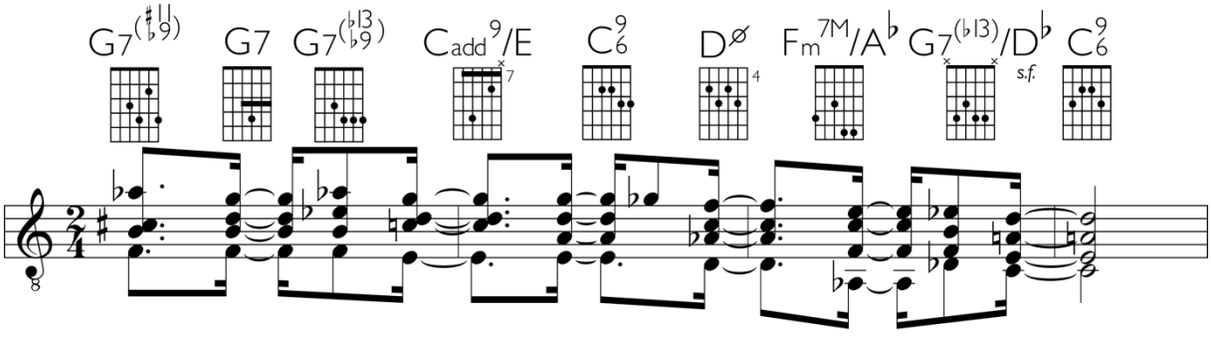
Track 25



In major keys, as is in the melodic example we are analyzing, the complete cadence used to reinforce the return to the tonic chord at the beginning of the theme can also be constructed with chords borrowed from the homonymous harmonic major scale.

II$^{\varnothing}$ – V – I

Track 26

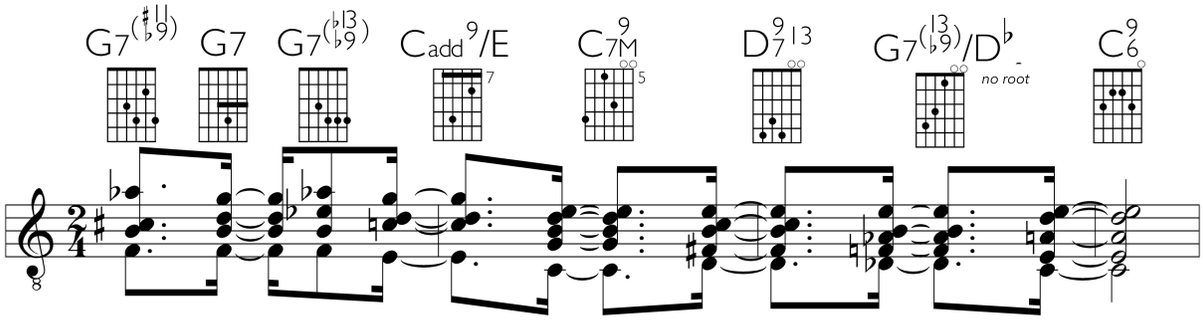


Turnaround cadences, which start from and return to the tonic chord, can also be achieved through the use of secondary dominants, with their inversions and extensions. The simplest

example of applying secondary dominants in a turnaround progression occurs when the tonic chord is returned to by linking two consecutive dominants.

V/V – V – I

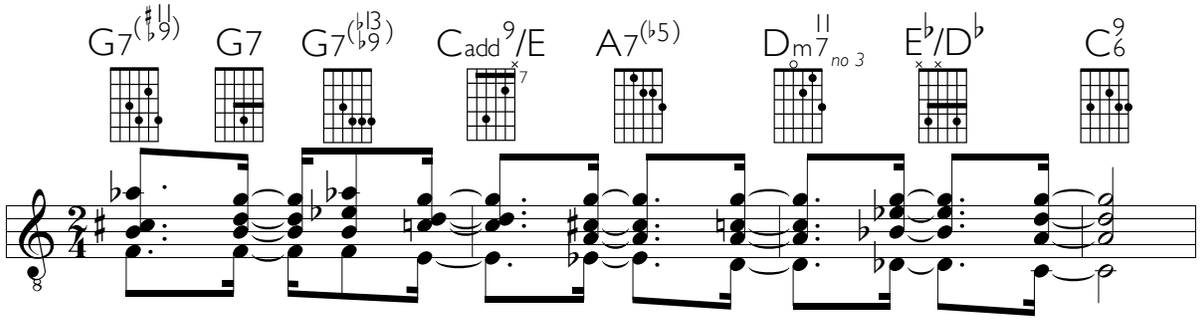
Track 27



It is also possible to expand the application of secondary dominants by increasing the cadential movement towards the tonic, as well as by using modal borrowing chords.

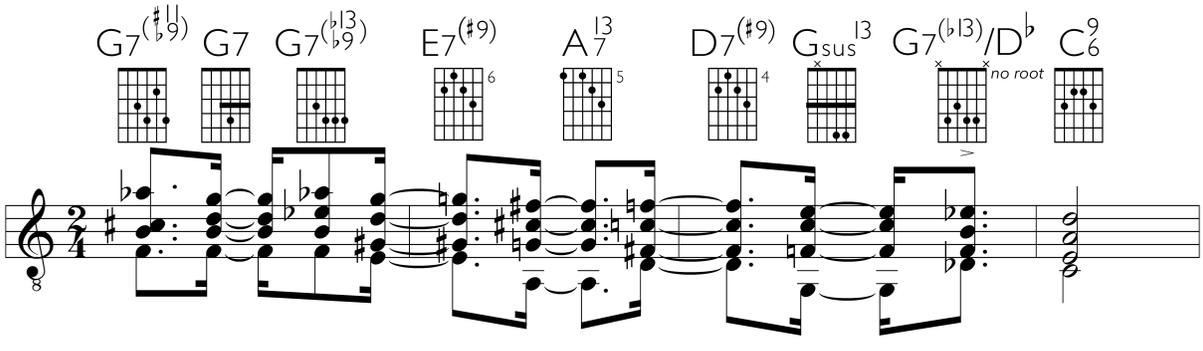
V/II – II – mbc[1] – I

Track 28



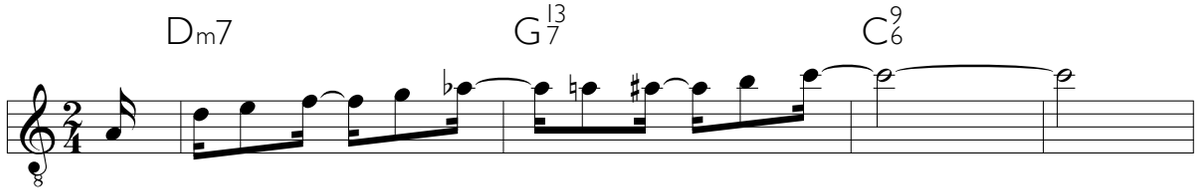
V/VI – V/II – V/V – V – I

Track 29



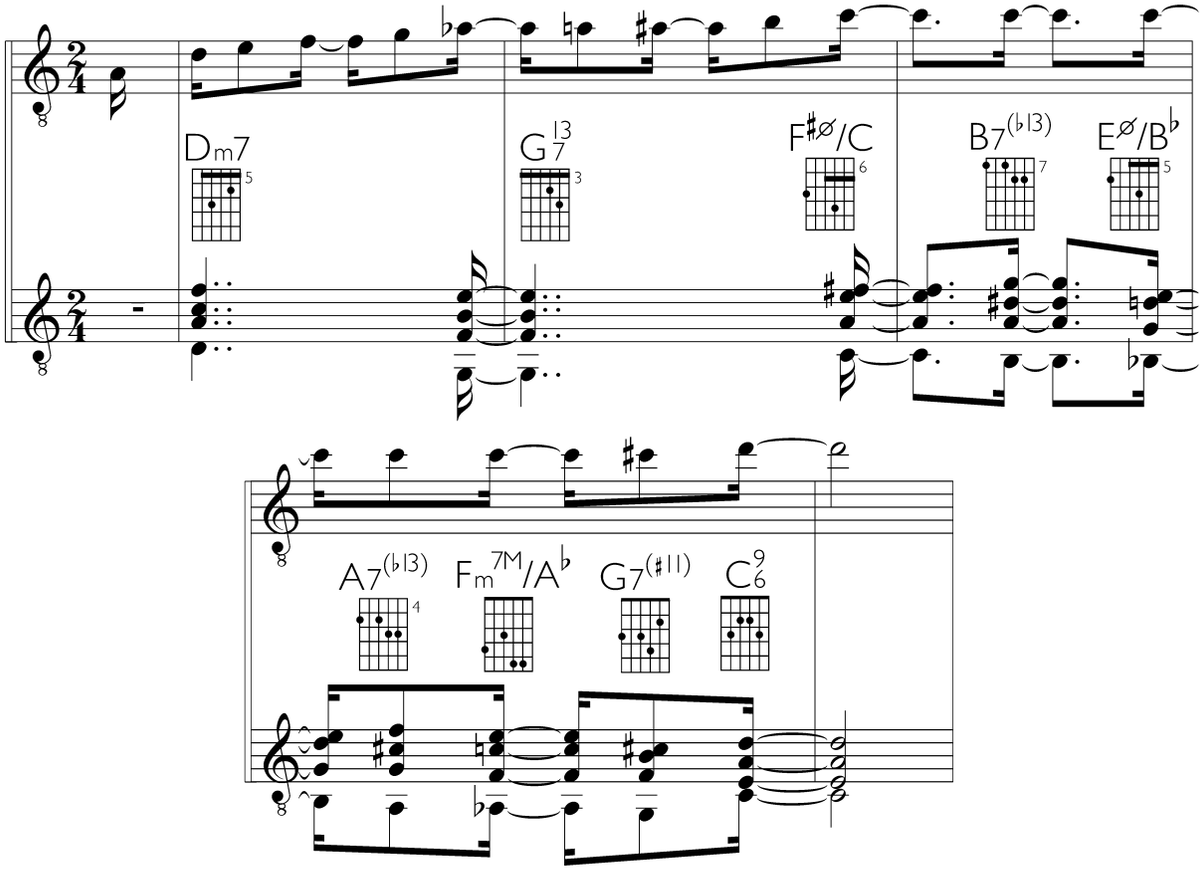
[1] *mbc = modal borrowing chord, without a defined function. This type of chord features chromatic notes, with ascending or descending tension, that connect diatonic notes.*

Just as secondary dominants connect to each other without resolving to the chords of the main scale, it is also possible for this type of sequence to apply a sequence of cadential pairs, borrowings, and inversions. To illustrate this, let's take another melodic example that rests on the root of the tonic chord (note that in the previous example the rest was on the fifth of the tonic chord). This gives us more possibilities for using cadential pairs, since the resting note of the melody (C) must maintain intervallic coherence with the chords employed.



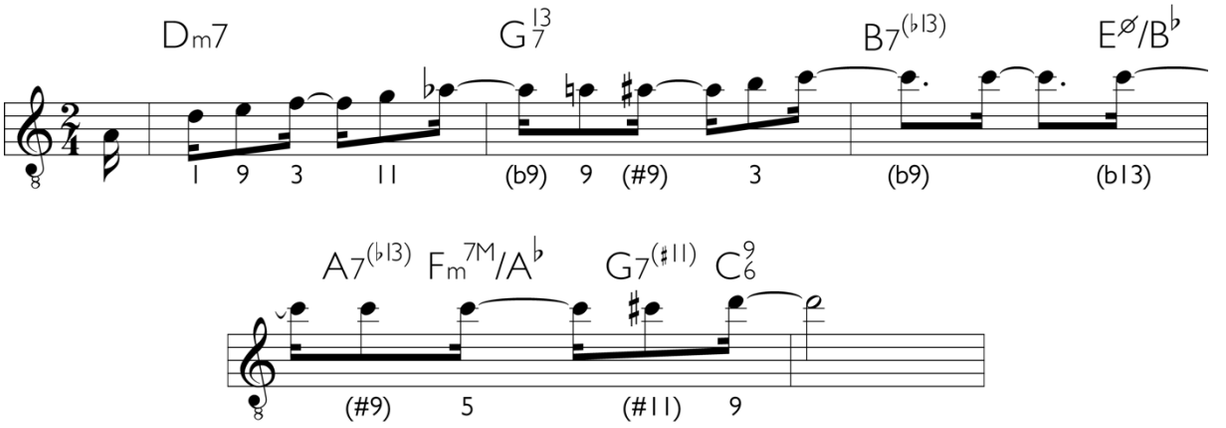
II/III – V/III – II/II – V/II – IVm^{7M} – V$^{(\#11)}$ – I

Track 30



Note that the chords used in this sequence are all related to the resting note of the melody. See

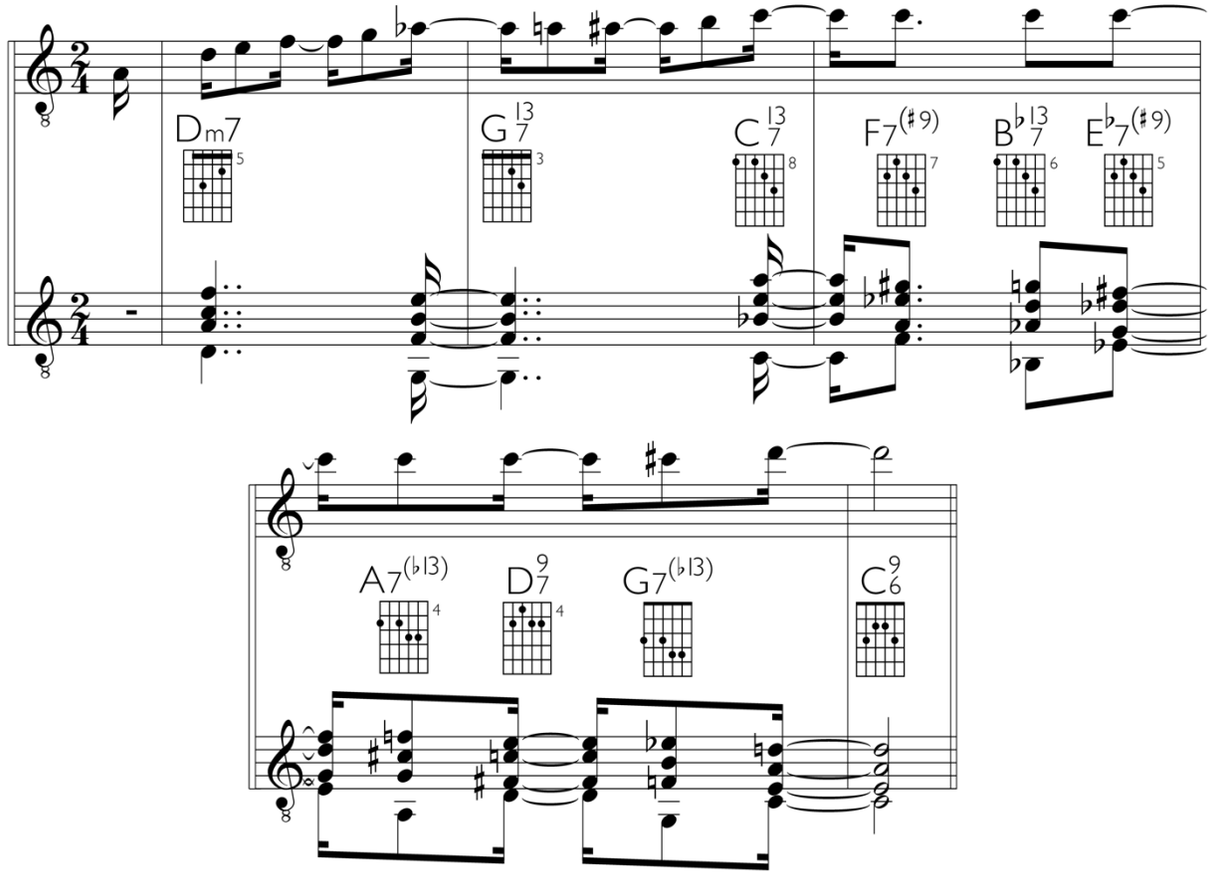
how the analysis of the resulting intervals looks:



Another variation in this type of chord progression is achieved by applying altered secondary dominants and dominant substitutes (subV7) in place of the secondary dominants:

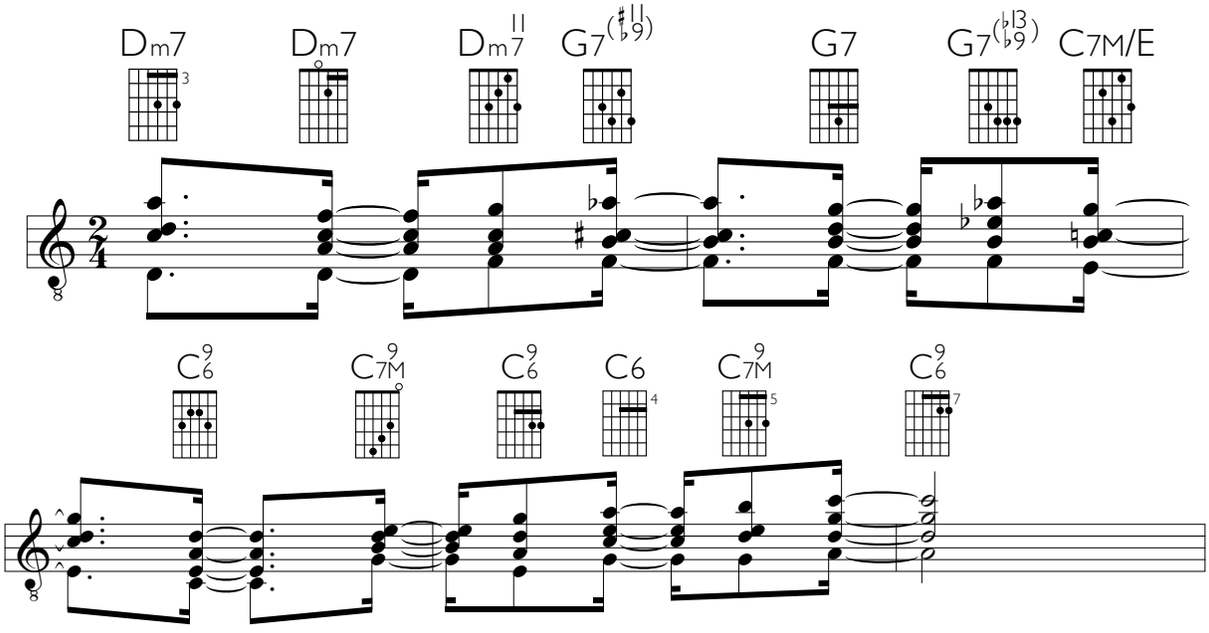
V/IV – subV/III – subV/VI – subV/II – V/II – V/V – V – I

Track 31



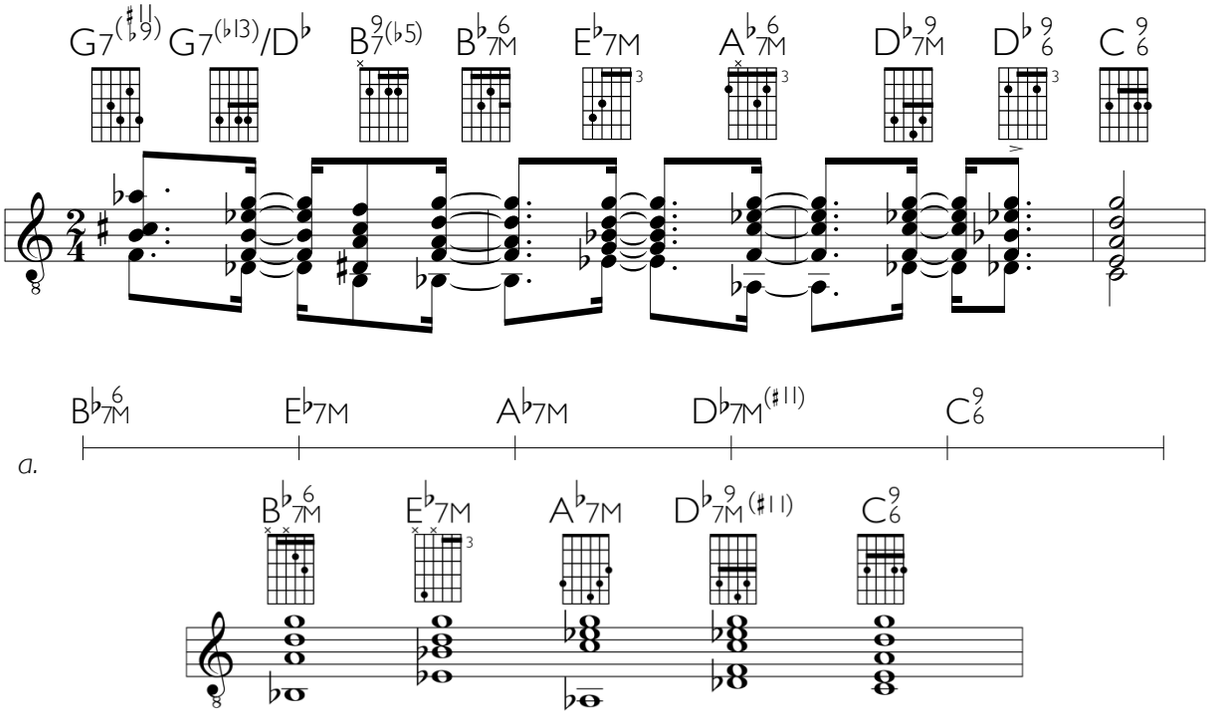
If the option is to maintain the tonic chord without using the turnaround, the use of different extensions that will change the position of this chord can be used. It will represent the voice movement to dynamize the musical passage, breaking the monotony of the static chord.

Track 32

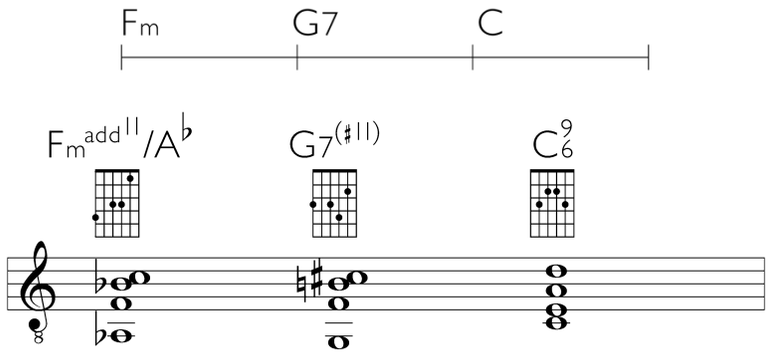


Finally, one can use altered secondary dominants combined with modal borrowing chords to create a turnaround. The most used are the following:

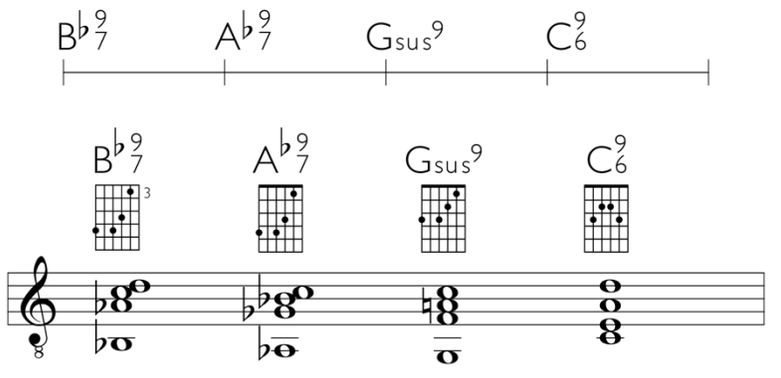
Track 33



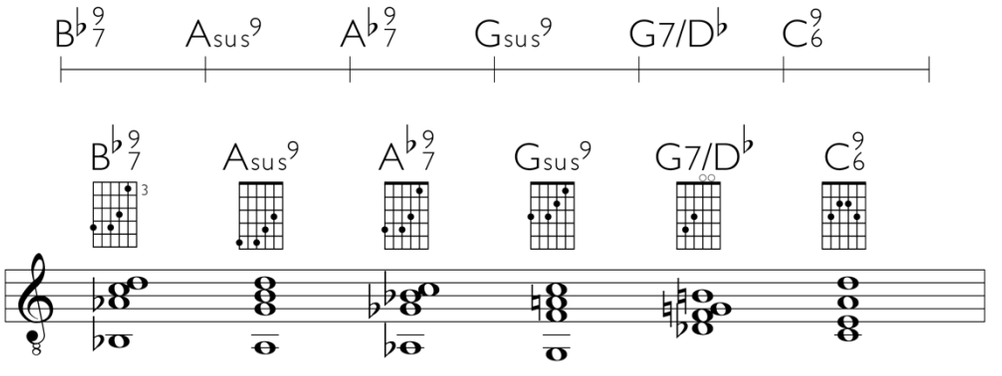
b.



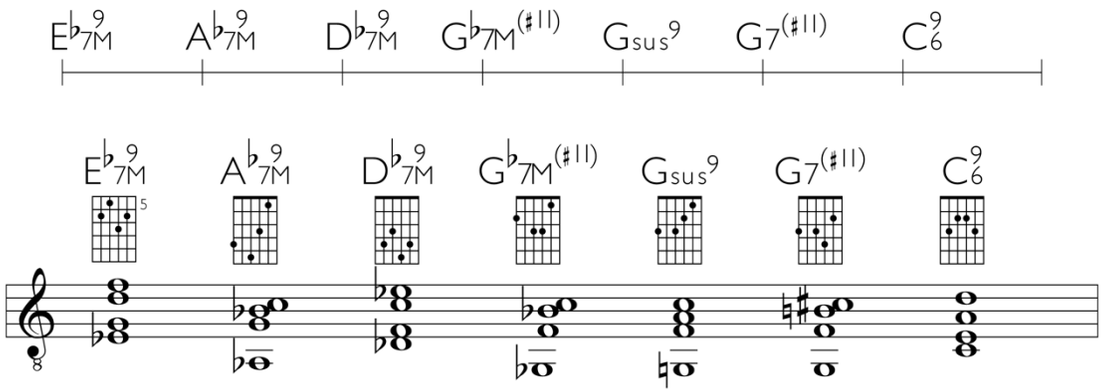
c.



d.



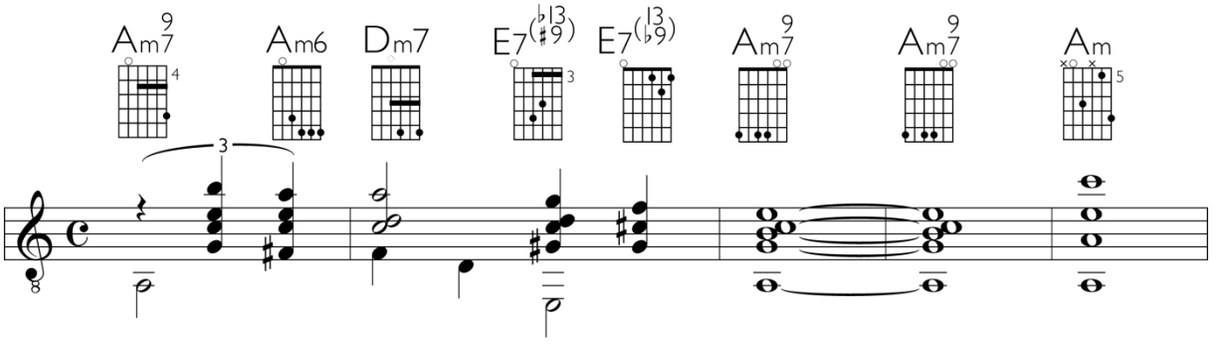
e.



Turnarounds in minor mode

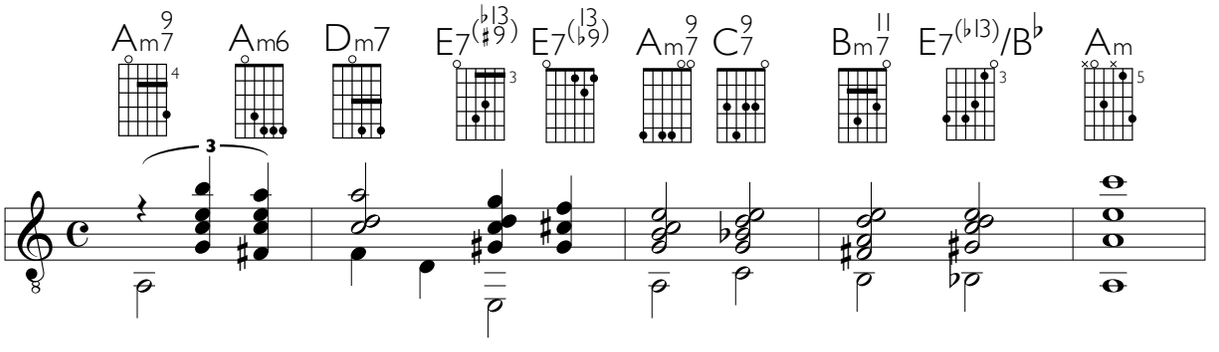
Turnarounds created in minor modes follow the same principle as turnarounds in major keys. Here are some examples of turnarounds starting from the tonic of A minor with a melodic rest on the fifth of the tonic chord.

Track 34



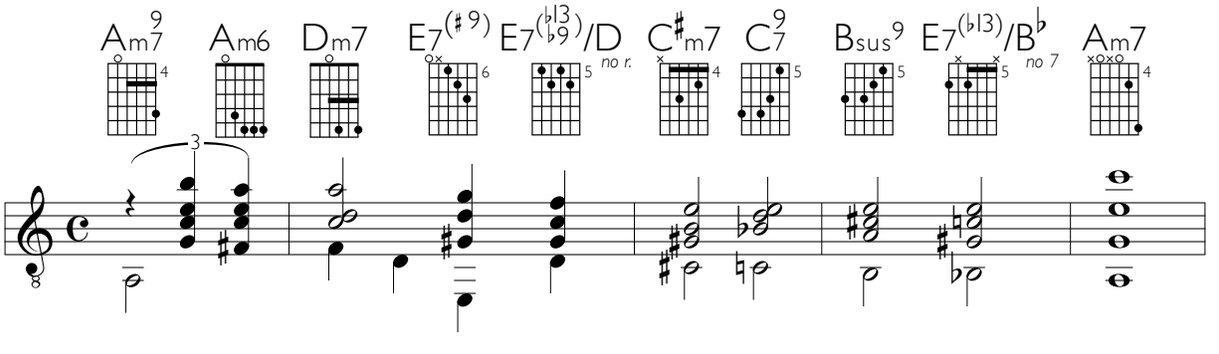
I – V/VI – II *(from homonymous major scale)* – V

Track 35



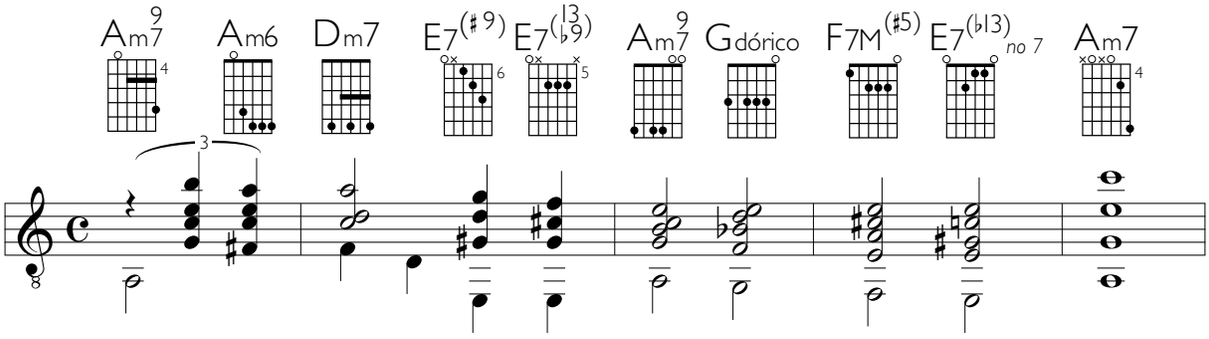
III *(from major homonymous scale)* – V/VI – V/V – V

Track 36



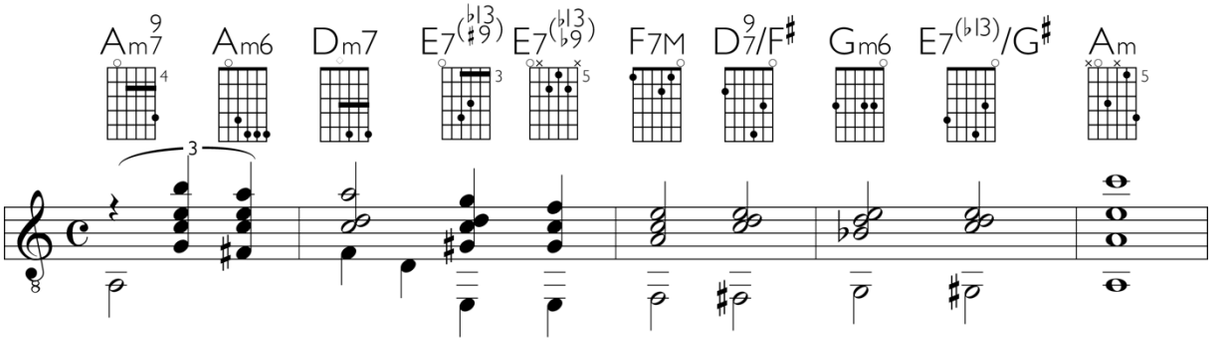
I – mbc – VI *(from minor homonymous scale)* – V

Track 37



VI – IV *(from melodic minor homonymous scale)* – mbc – V

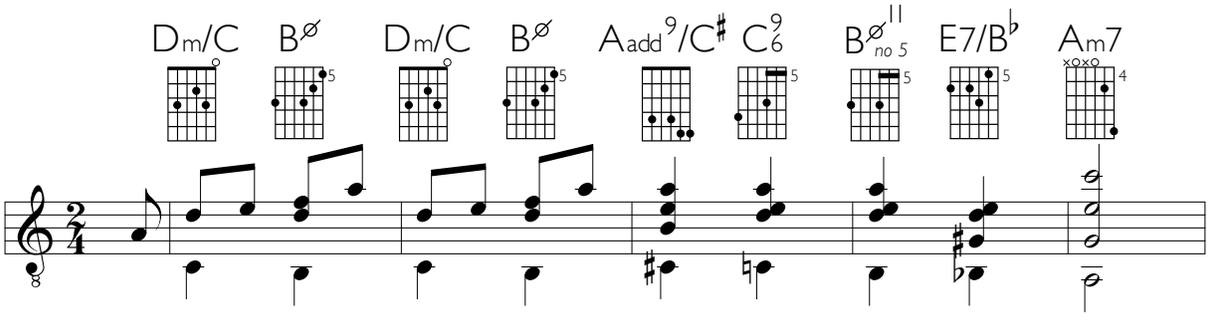
Track 38



Melodic rest can occur on the root, the third, or the fifth of the tonic chord. The examples above were all developed from the resolution of the melody on the fifth of the tonic chord. The seventh and complementary intervals occur less frequently in the harmonization of popular songs, the focus of this chapter. Below are some examples with the resolution of the melody on the root note.

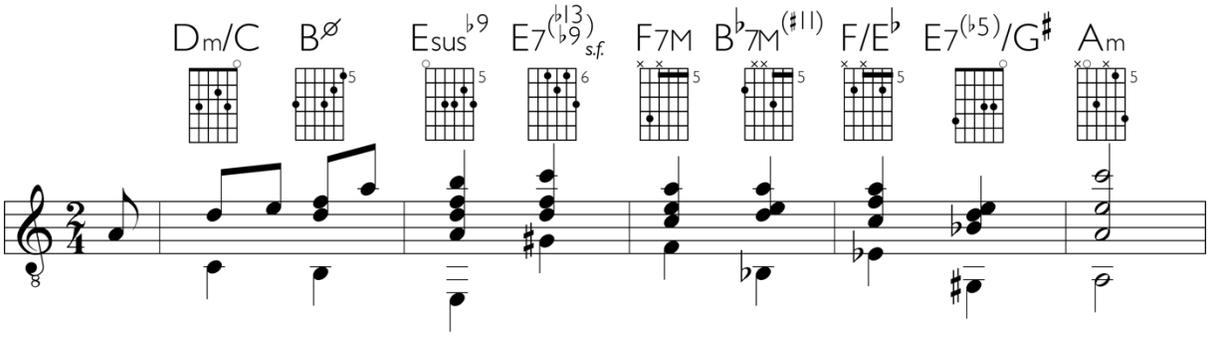
I *(from major homonymous scale)* – III *(from natural minor homonymous scale)* – II – V

Track 39



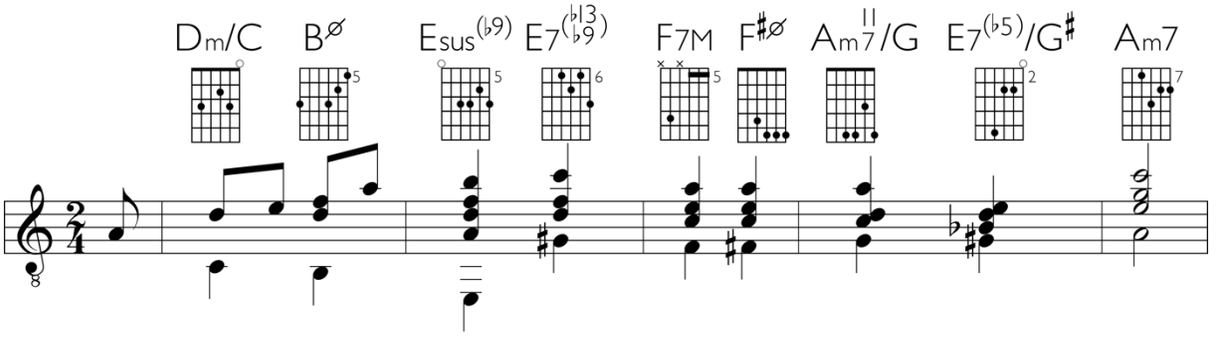
VI – mbc – subV/V – V

Track 40



VI – VI *(from melodic minor homonymous scale)* – I – V

Track 41



Exercise

1) Create turnarounds in the following keys:

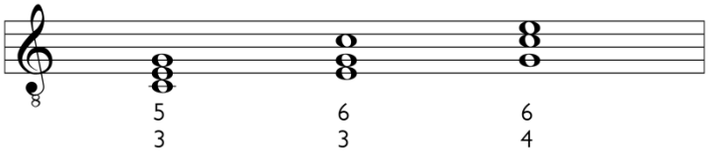
a) D major	*b)* C major
c) F maior	*d)* A flat major
e) A major	*f)* E flat major
g) E major	*h)* B minor
i) B flat major	*j)* D minor
k) G minor	*l)* A minor

2) 2) Apply turnarounds to the melodies of standard songs.

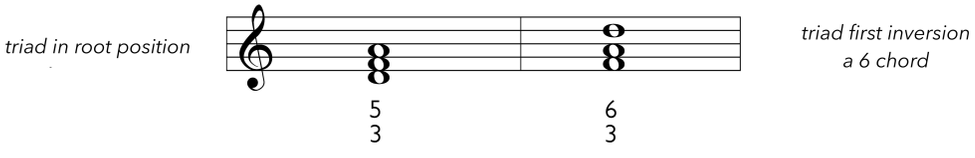
Characteristic cadences

Neapolitan cadence

Before discussing the **Neapolitan cadence**, it's necessary to understand the original meaning of the **Neapolitan sixth chord**, as defined and presented in various treatises on Traditional Harmony. This terminology can lead to misunderstandings for those familiar only with the nomenclature of Functional Harmony or Jazz. The different notation systems adopted in these three approaches to the study of Harmony present considerable differences. In the Harmony Books I present, the analysis of chord structures always considers the chords in root positions, that is, always with the root of the chord in the bass. In the harmonic analysis done by Traditional Harmony, all chord inversions are also considered and, consequently, all intervals resulting from the inversions of these chords. Thus, triads are notated not only by their three-note structures, with a third and a fifth superimposed, but also as three-note structures with the superposition of a third and a sixth, or even a fourth and a sixth.[1]



This is the procedure adopted by Traditional Harmony to represent the inversion of chords, and for this reason, triads in first inversion are called sixth chords. Not because of the addition of a sixth to the main triad, as one might imagine, but because the inverted third generates a sixth interval.



See the table below for a summary of the numerical representation of triads, according to the principles of Traditional Harmony. Note that the interpretation of the intervallic structure of the same chord varies according to its inversions.

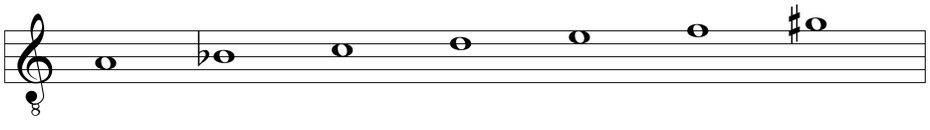
[1] *In Traditional Harmony, notation is purely numerical. The bass line is always written on the staff, and the numbers in the notation represent the intervals that should be added to the bass note, thus forming the desired chords.*

Root position triad	5 3	3rd and 5th over the root
First inversion triad	6 3	3rd and 6th over the third of the chord
Second inversion triad	6 4	4th and 6th over the fifth of the chord

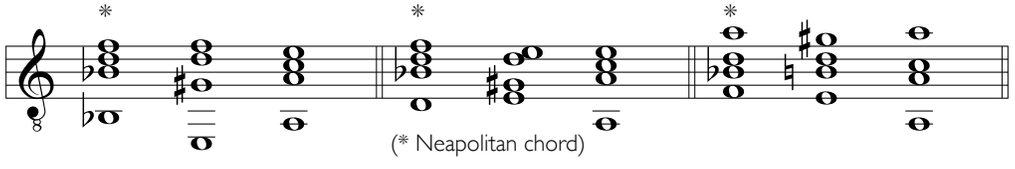
Thus, the chord known as the **Neapolitan sixth chord** is the borrowed **II chord** from the **Neapolitan minor scale** and is traditionally played in the first inversion. This borrowed chord was widely used by European classical composers in cadential processes, and we are particularly interested in addressing it within this type of cadence, which we call the **Neapolitan cadence**.[1]

The **Neapolitan cadence** is a similar cadence to the **complete cadence** studied previously, with the substitution, by borrowing, of the second degree chord. This borrowing is done from the **Neapolitan scale**, whose structure is the same as the harmonic minor scale, differing only in the second degree, which is lowered by a semitone – **bII**. As the Neapolitan scale maintains the perfect fourth, the perfect fifth, and the leading tone unchanged, it lends itself, like tonal scales, to the cadential processes of Harmony.

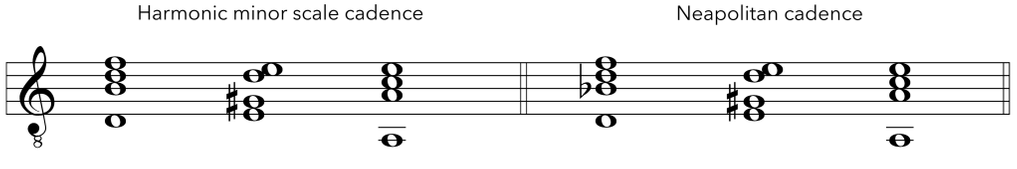
Neapolitan minor scale



The chord progressions that form the **Neapolitan cadence** are structured as follows:



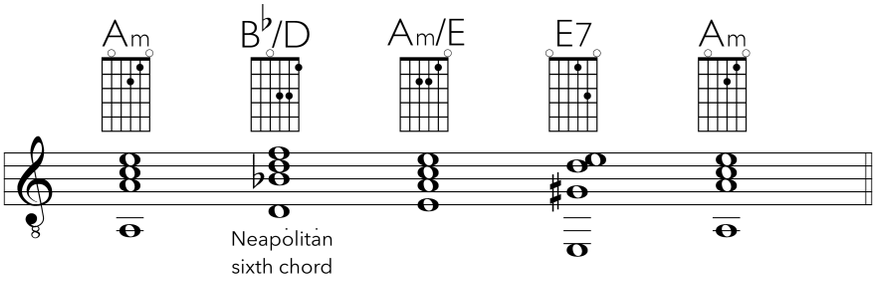
Compare the cadences:



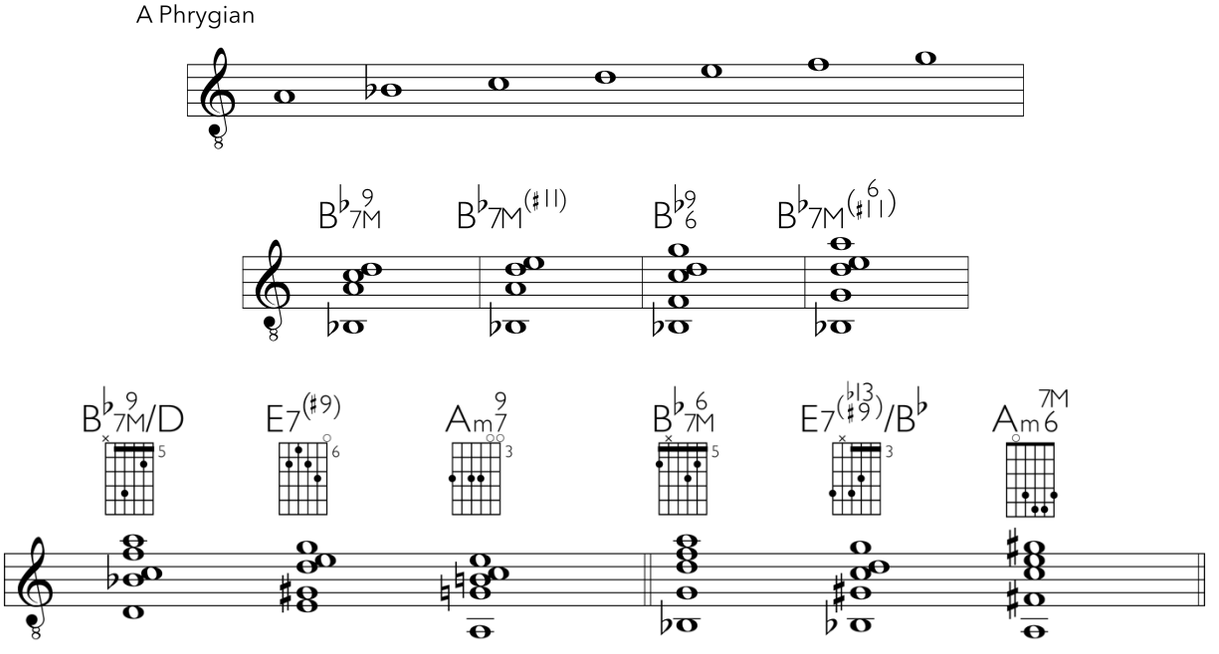
[1] *This type of cadence became known and popularized through the works of composers from the Neapolitan School, especially Alessandro Scarlatti (1660-1725), Giovanni Battista Pergolesi (1710–1736), Giovanni Paisiello (1740–1816), and Domenico Cimarosa (1749–1801).*

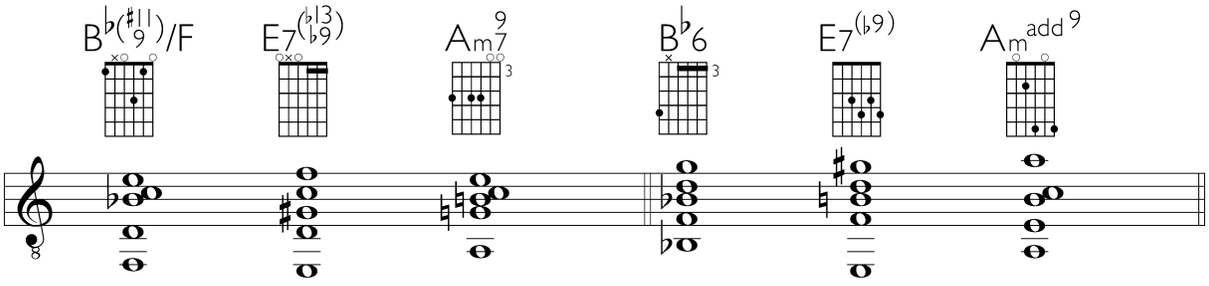
Note that the cadences are made by linking the subdominant (second degree), dominant (fifth degree), and tonic (first degree) chords of A minor. The first cadence uses the A harmonic minor scale, and the second uses the A minor Neapolitan scale.

As already mentioned, the triad in its first inversion is called a sixth chord in Traditional Harmony, and when this triad is borrowed from the **second degree** of the **Neapolitan Minor Scale**, it is treated as a **Neapolitan sixth chord**. See the example below for the classic way to insert it into a chord progression.



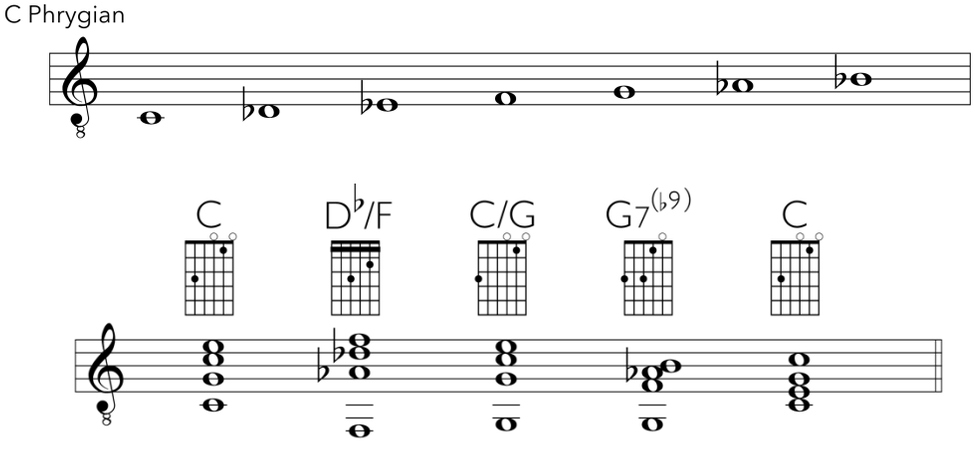
The **Neapolitan chord**, in its typical cadence, is almost always played in triadic formation, but nothing prevents the introduction of the tetrad and its complements in the same cadence. When this happens, that is, when the chord receives the 6th, 9th, or 11th complements, special attention must be paid to the 6th. The note that represents it, if removed from the Neapolitan minor scale, will form an inconvenient tritone in the chord structure. In this case, the **Phrygian mode** is used instead.





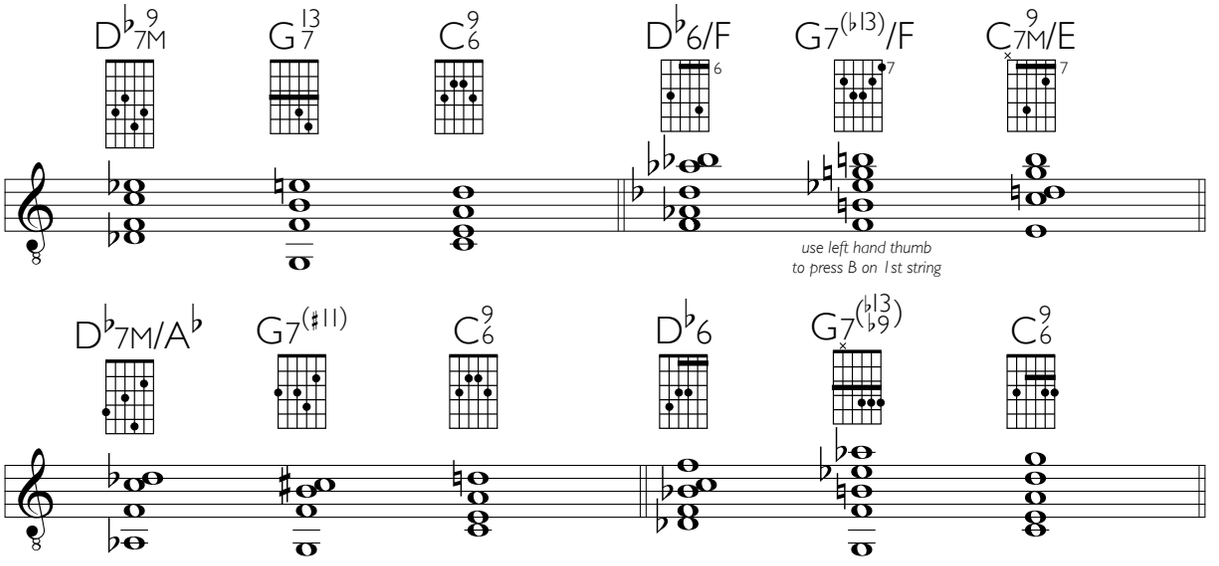
The best way to practice the Neapolitan cadence is with the borrowed chord in the first inversion. This is how it became established and thus became our best auditory reference. However, it is also possible to practice it with the Neapolitan chord in root position in the second or third inversions, options that are less frequently used.[1]

The effect created by the Neapolitan chord is typical of cadences in minor keys, but there is also a similar practice done on the complete cadence in major keys. Despite the similarity with the Neapolitan cadence *(both have the second degree chord lowered and in the first inversion)*, the origin of this chord is not in any of the Neapolitan scales *(major or minor – see 'Other tonal scales')* but in the **Phrygian mode**. What characterizes the origin of this borrowing is the ninth complement = B flat. See its configuration in the example below:

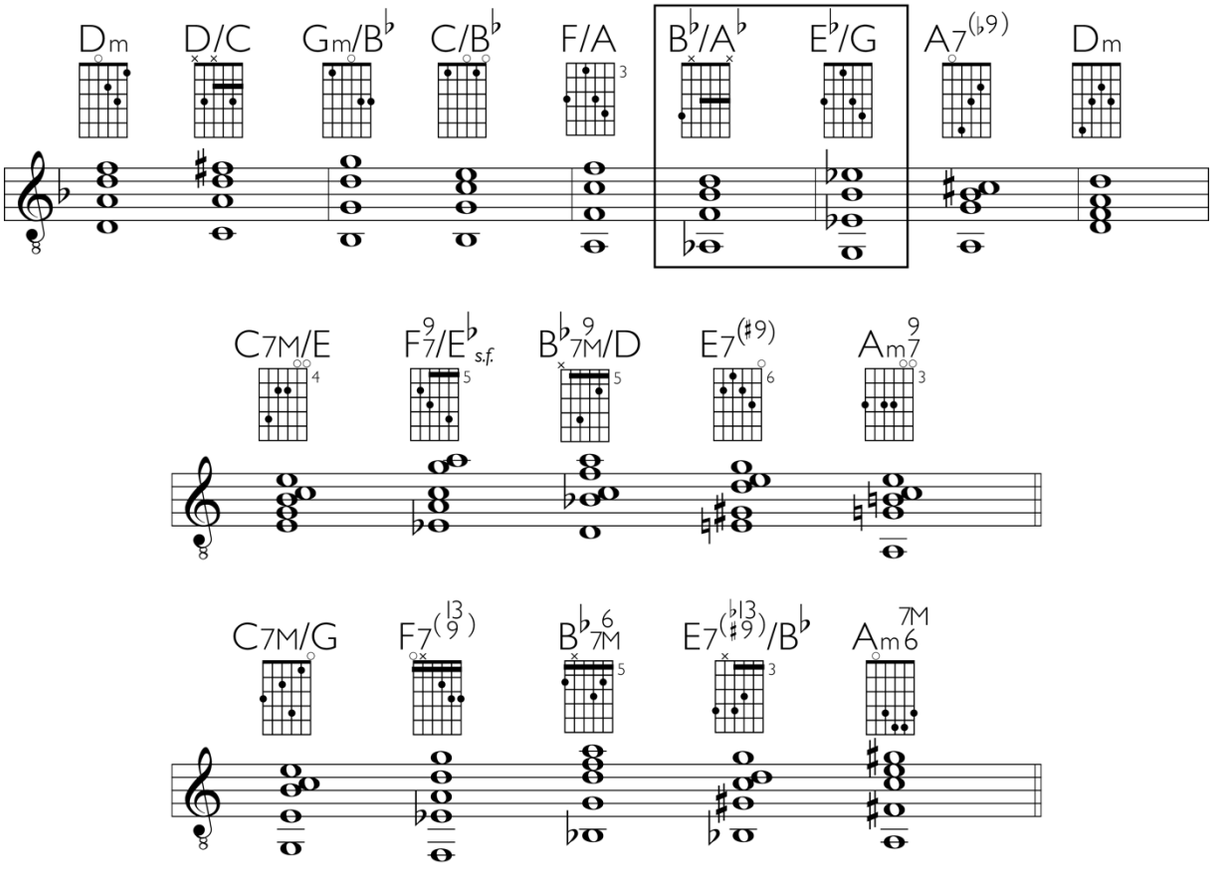


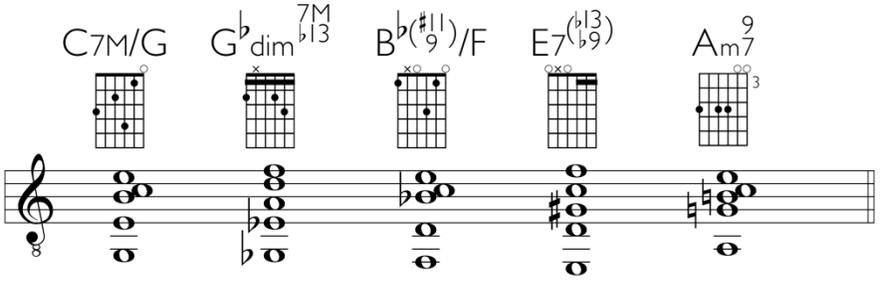
This same cadence related to the Phrygian mode can also be practiced in chord progressions with tetrads by applying their extensions. See the following example:

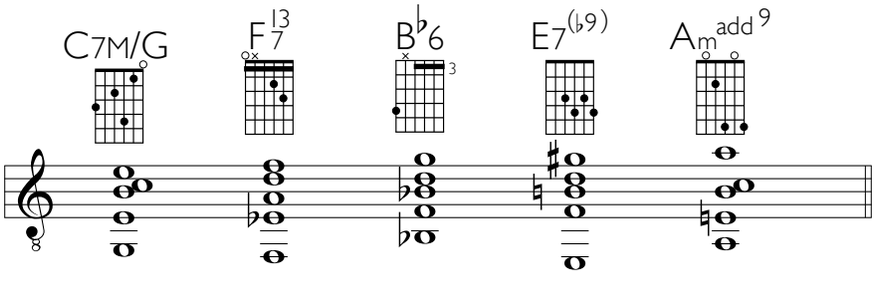
[1] *When the chord is played in the third inversion (Bb/A), the effect obtained in the cadential process is that of borrowing from the Phrygian mode.*

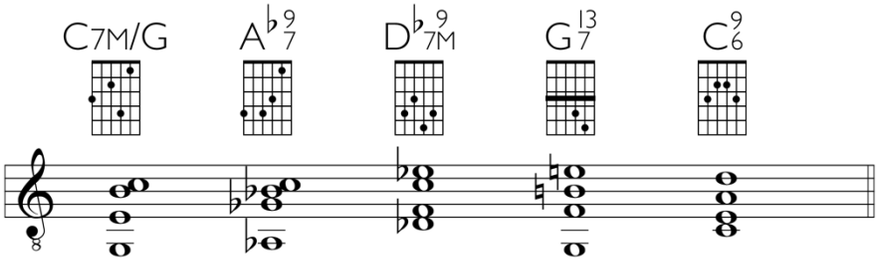


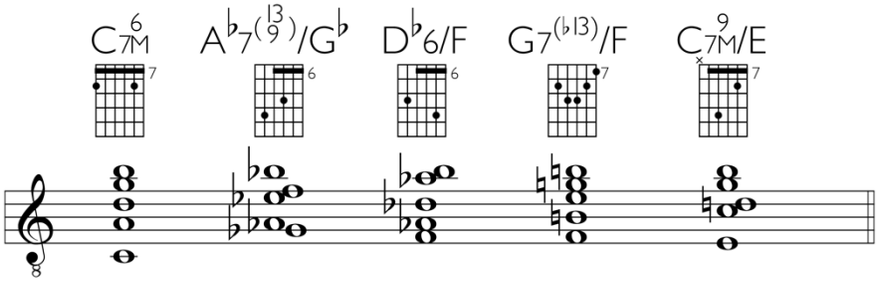
The Neapolitan chord can also be used preceded by a dominant seventh chord that leads to it, as if it were a kind of secondary dominant for this modal borrowing chord. In this way, the Neapolitan cadence becomes even richer and more expansive. It can be practiced in both minor and major modes.

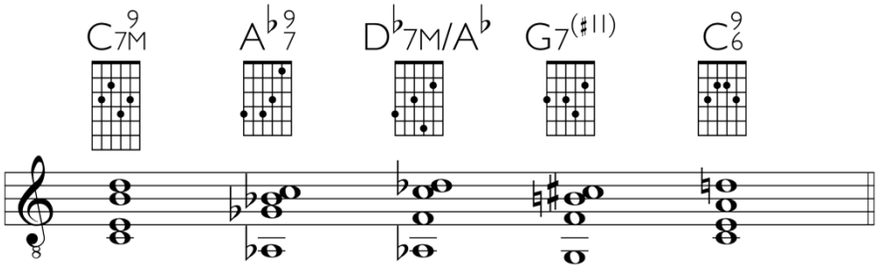


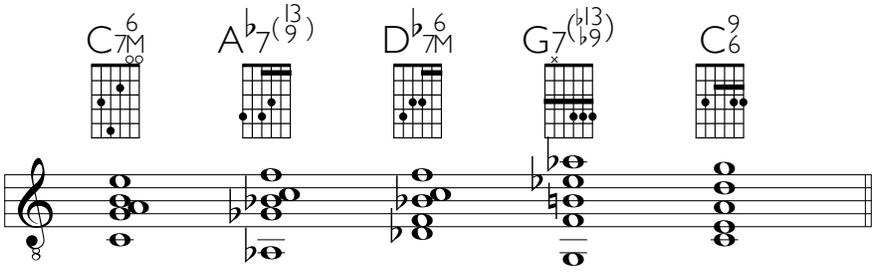












Note:

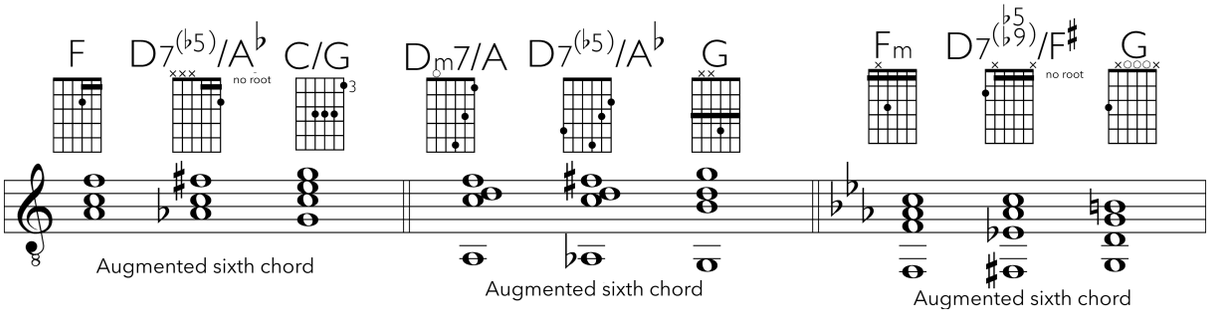
Within a more contemporary concept, and according to the harmonic principles adopted here, the intervals resulting from chord inversions do not require special notation. It is sufficient to know the chord inversion and, in this way, apply the diagonal line and place the note that should be in the bass. This detail, having clarity about the bass note, is fundamental when writing chord progressions. Regarding harmonic extensions, the construction of chords does not obey such rigid principles, and this means that the arrangement of the remaining notes of the chord is not so relevant for the effect to be efficient. The classical way of interpreting chords and their inversions (numerical notation) has become outdated with the development of Harmony and its complex tonal processes: the use of altered chords, chromatic modulating passages, and the increasingly frequent use of five, six, and seven-note chords. Within this practice, traditional notation (numerical notation) has become a complicated and inefficient method due to the countless numerical combinations that could arise from it.

Italian, French and German cadences

Just like in the Neapolitan cadence, the Italian, French, and German cadences were developed in classical harmonic practice through the chromatic alteration of two notes of the subdominant chord structure. This specific chord was named the **augmented sixth chord**.[1]

The ascending and descending alterations of the augmented sixth chord result in two melodic tensions that, by contrary motion, tend to settle into an octave interval. This happens as follows: the root of the subdominant chord is altered in an ascending chromatic motion, and the third of the subdominant chord in a descending chromatic motion.[2] The octave interval, resulting from the resolution of these tensions, can be interpreted in two ways: as the root of the dominant chord or as the fifth of the tonic chord. The harmonic quality of this chord is similar to the **subV7/V**, both in the Italian cadence and in the French and German cadences. The German cadence has particular and specific characteristics. The **subV7/V** chord represents a dominant substitute, that is, a dominant chord with a diminished fifth in the bass, which, in this case, creates tension towards the dominant.

See how the progression from the subdominant to the tonic or from the subdominant to the dominant occurs, using the augmented sixth chord and its alterations as the intermediate chord.



The particular and positive effect that the use of this chord adds to cadential procedures has transformed it into a frequently used chord in European music. Its application can be seen over a long period, from the Renaissance to the turn of the 19th to the 20th century, coinciding with the decline of tonal procedures.

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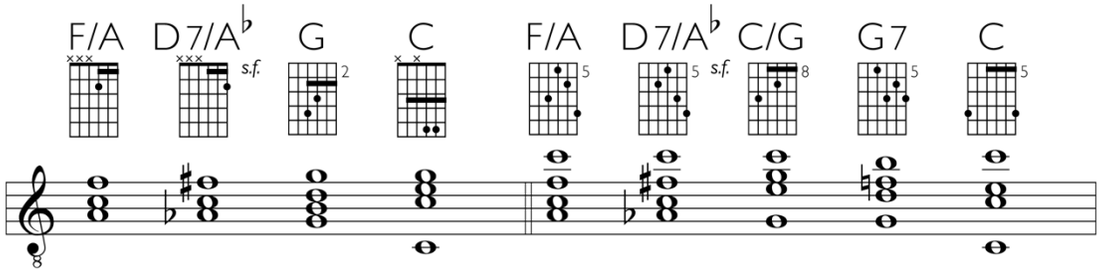
[1] *Remember the same concept used in relation to the Neapolitan sixth chord regarding chord inversion according to Traditional Harmony, where 'sixth chord' means a triad in first inversion, and never the interval of a sixth added to the triad, as it is treated in contemporary alphanumeric notation.*

[2] *Note that both alterations only occur in major keys. In minor keys, the third of the subdominant does not move in the progression with the augmented sixth chord, since they are common notes.*

This cadence has received various names despite the similar nature of the specific chord employed in it. Let us therefore examine these three cadences, starting with the Italian cadence, which represents a simplified version of the others.

Italian cadence

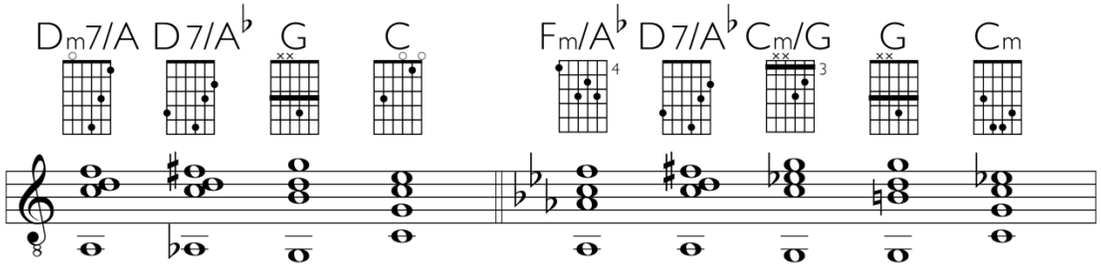
Using only triads, the Italian cadence has the following configuration:



(It can also occur in minor keys)

French cadence

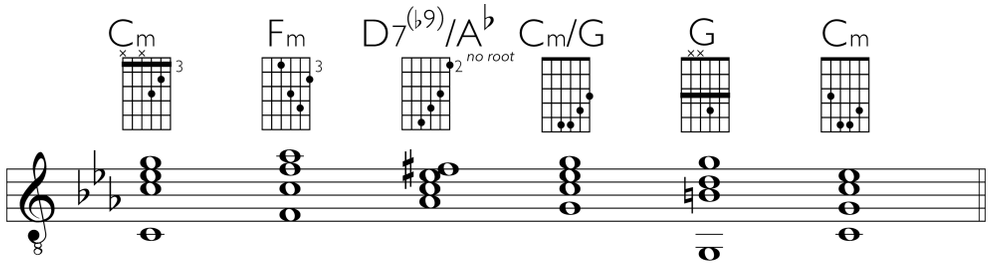
The French cadence is accurately represented by the subV7/V. The classic way to link this chord is by placing the chromatic alterations in the extreme voices (the highest voice and the bass), keeping the chord in its second inversion.



German Cadence

This type of cadence always occurs in minor keys, and the chord that makes the chromatic movement towards the dominant has the quality of a secondary dominant, represented by the subV7/V.

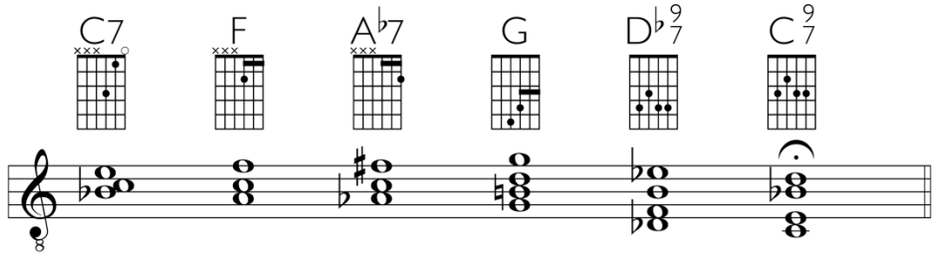
The augmented sixth chord in the German cadence, due to the direction of its voices, can resolve to either the tonic chord or the dominant chord.



Note:

Blues Cadence

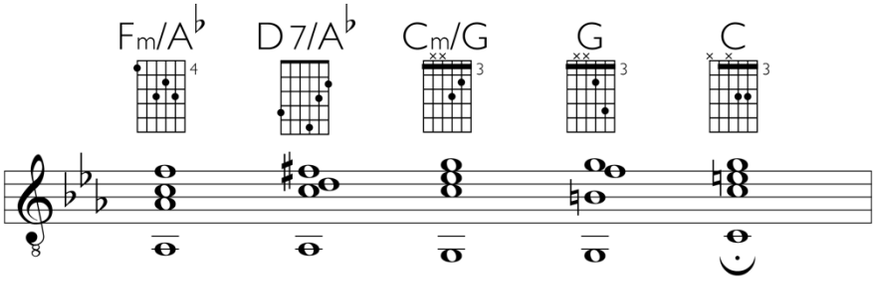
In jazz terminology, we find the traditional 'augmented sixth chord' applied in some situations. The most common of these is in the endings of some themes with a predominant influence from African American music. Identify in the example below the use of this same cadence within a 'blues' character.



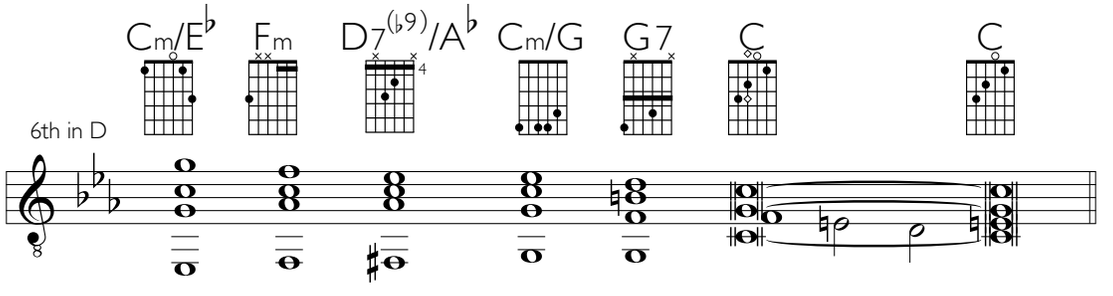
The Ab7 chord, the third chord in this sequence, is part of the so-called enharmonic chord symbols. The actual notes of this chord are indeed A flat and F sharp, and therefore the actual chord cannot be Ab7. From a functional perspective, this chord represents the dominant of the dominant, that is, a chord that leads to the dominant of the key, which is C major. This chord will then be D7/Ab without the root. Playing this chord with its root is also quite common.

Picardy cadence

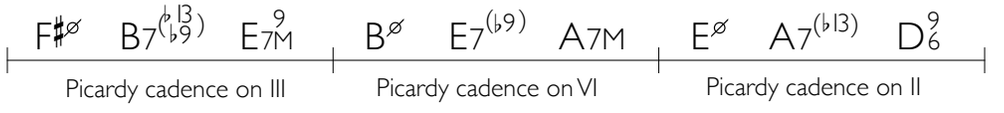
The Picardy cadence is a harmonic procedure that emerged in Central Europe in the pre-Baroque period. It consists of changing the tonic chord from minor to major at the end of musical pieces in minor keys. The chord is transformed from minor to major, and this conversion is done by altering the third of the tonic. We know that the seventh of the dominant chord in major keys preferably resolves by descending a semitone. And in minor keys, the resolution of the seventh occurs through a whole-tone movement. Since in major keys the resolution of the seventh of the dominant chord is only a diatonic semitone, it is easy to obtain the Picardy cadence effect. The resolution of the seventh of the dominant chord will be done by the melodic movement of only a semitone. The Picardy cadence can be applied to any cadential movement, and the following example uses the French cadence as a reference.



Here's another melodic movement typical of the Picardy cadence, this time associated with the German cadence.

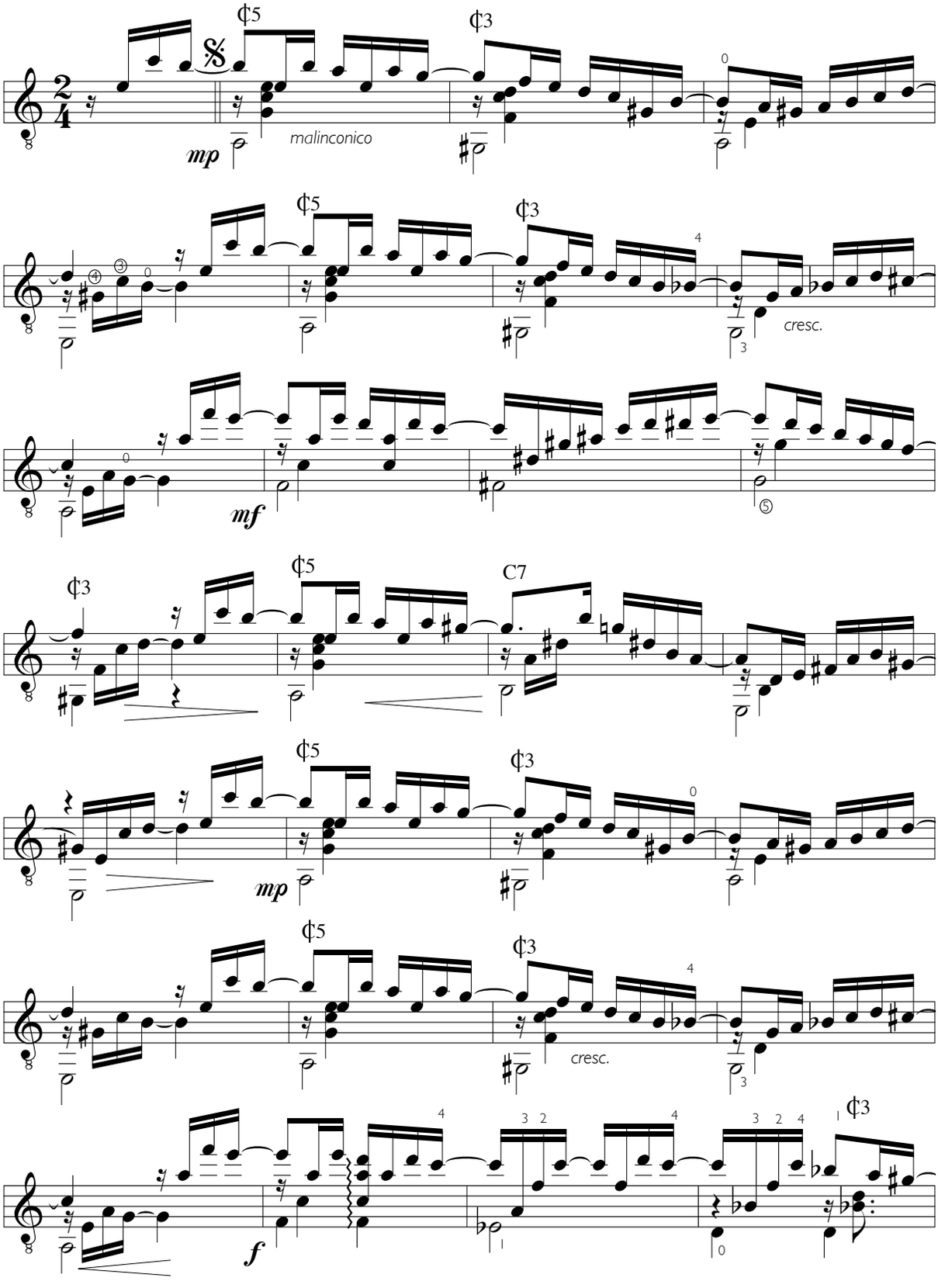


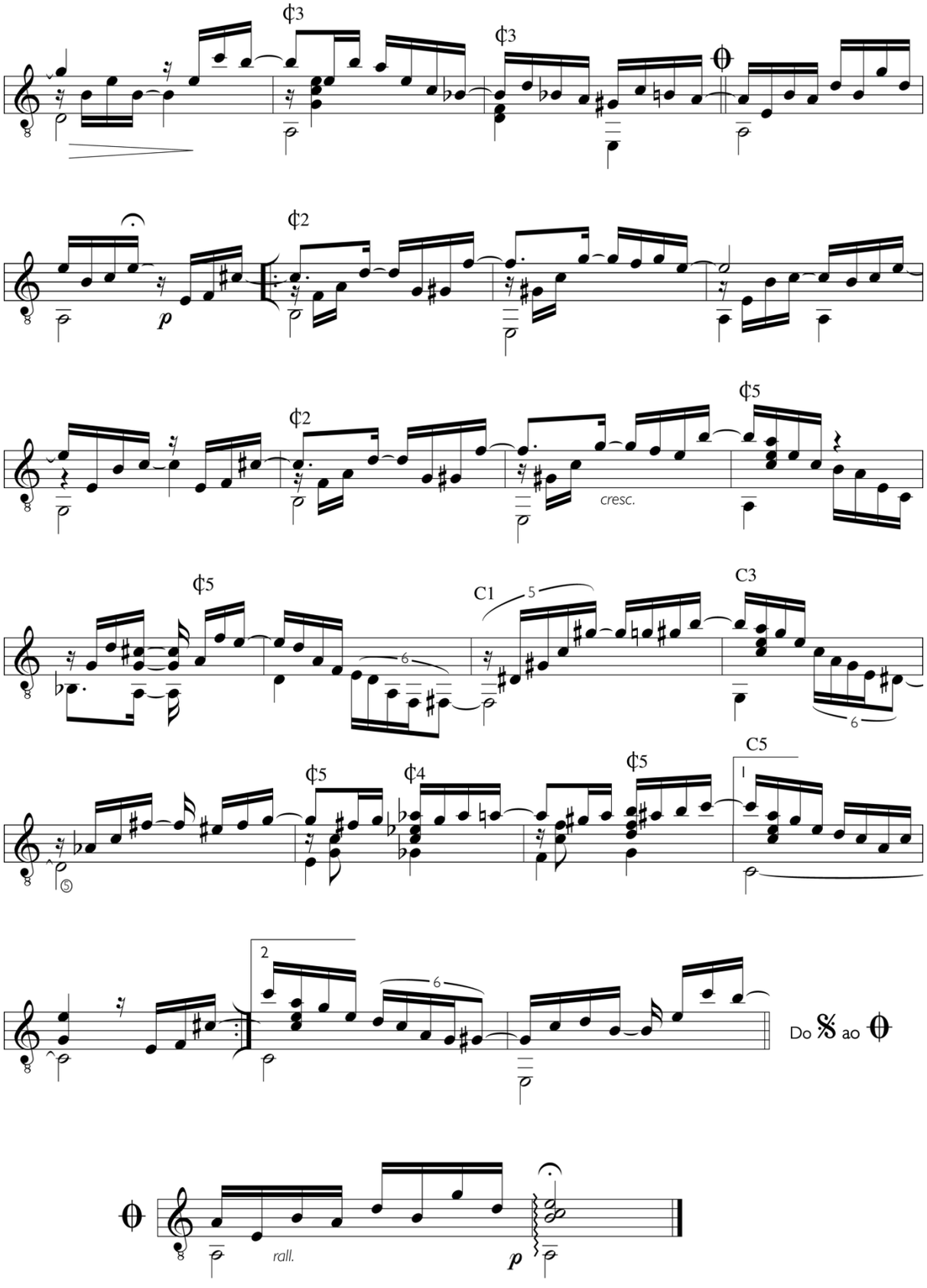
Similarly, the Picardy cadence is also frequently employed in the resolutions of some secondary dominants. The most common is the resolution on the III of the major mode, but Picardy can also occur effectively on the II and VI.



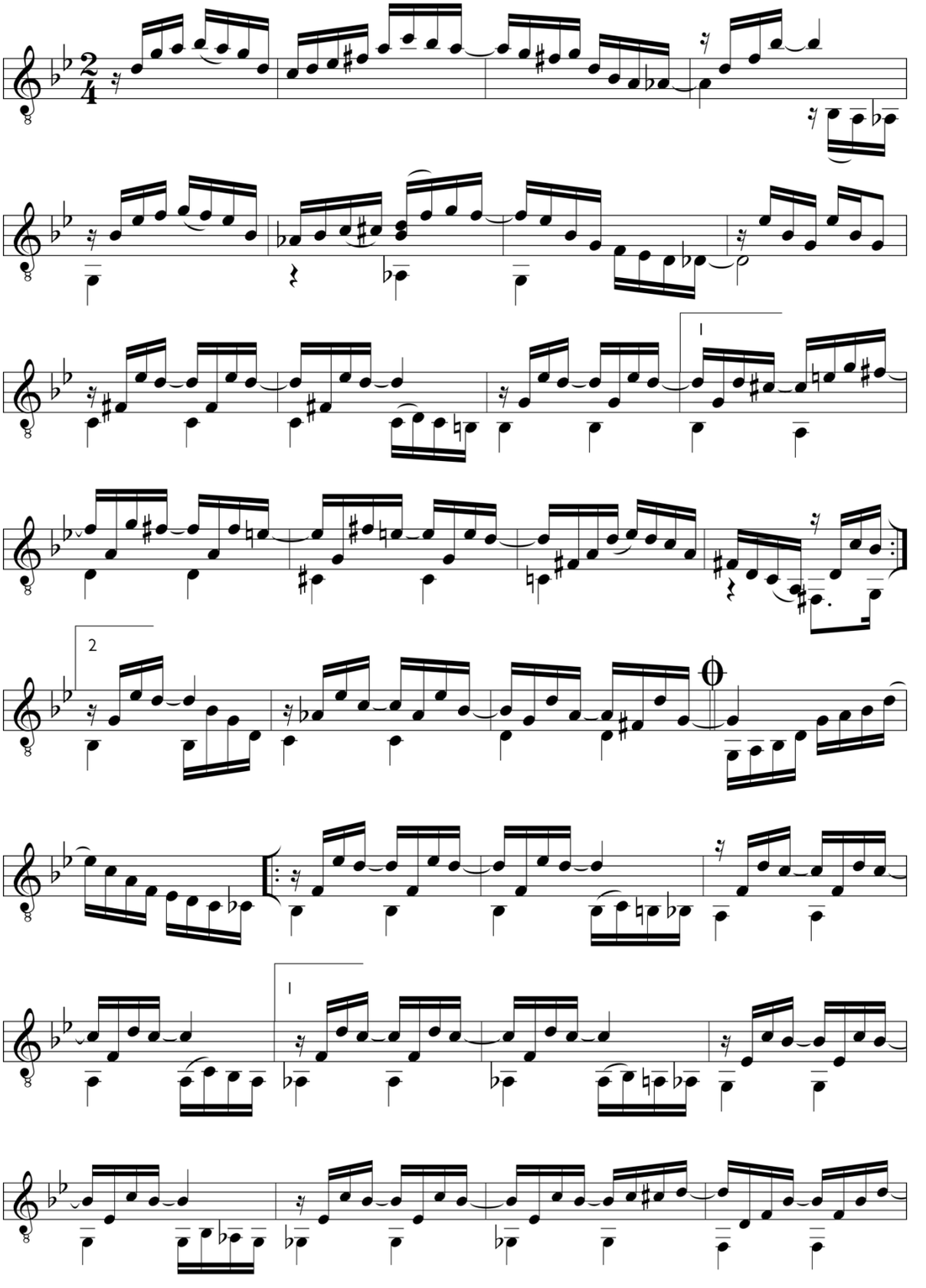
Exercises – Perception and Analysis

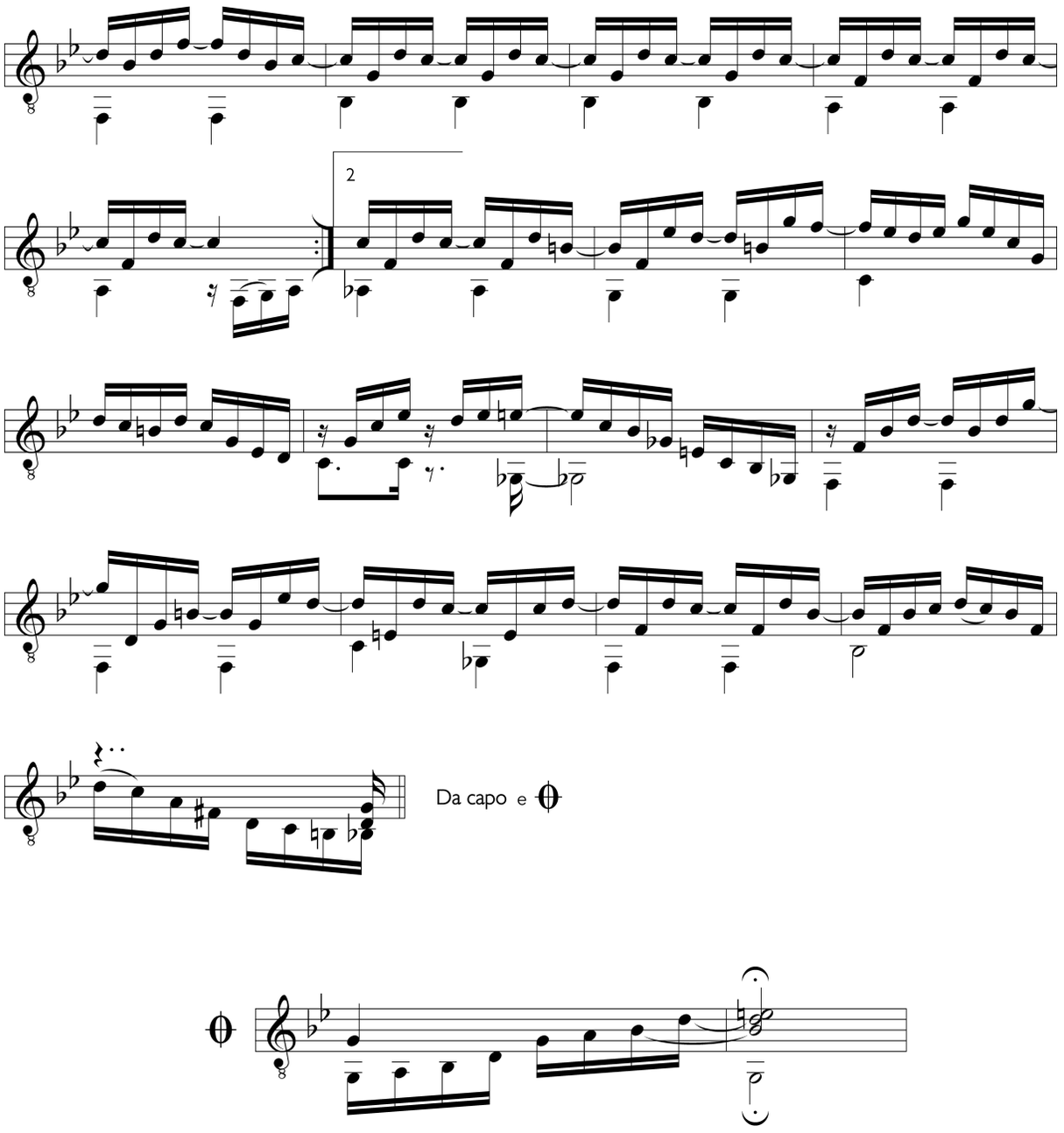
Track 42





Track 43





Exercises

1) Write Italian cadences in the following keys:
   a) B major
   b) E-flat major
   c) G major
   d) B-flat major
2) Write French cadences in the following keys:
   a) D major
   b) F major

c) D-flat major
d) E minor
e) A minor
f) B-flat minor

3) Write German cadences in the following keys:
a) B minor
b) E minor
c) G minor
d) A-flat minor
e) B-flat minor
f) D minor
g) F-sharp minor

4) Write blues cadences in the following keys:
a) D major
b) F major
c) B-flat major
d) E-flat major
e) G major
f) E major

5) Write and play minor Neapolitan cadences in the following keys:
a) B minor
b) D minor
c) G minor
d) E minor
e) B flat minor
f) F minor
g) F sharp minor
h) C minor

6) Write and play major Neapolitan cadences in the following keys:
a) G major
b) E major
c) B flat major
d) F major
e) A major
f) E flat major

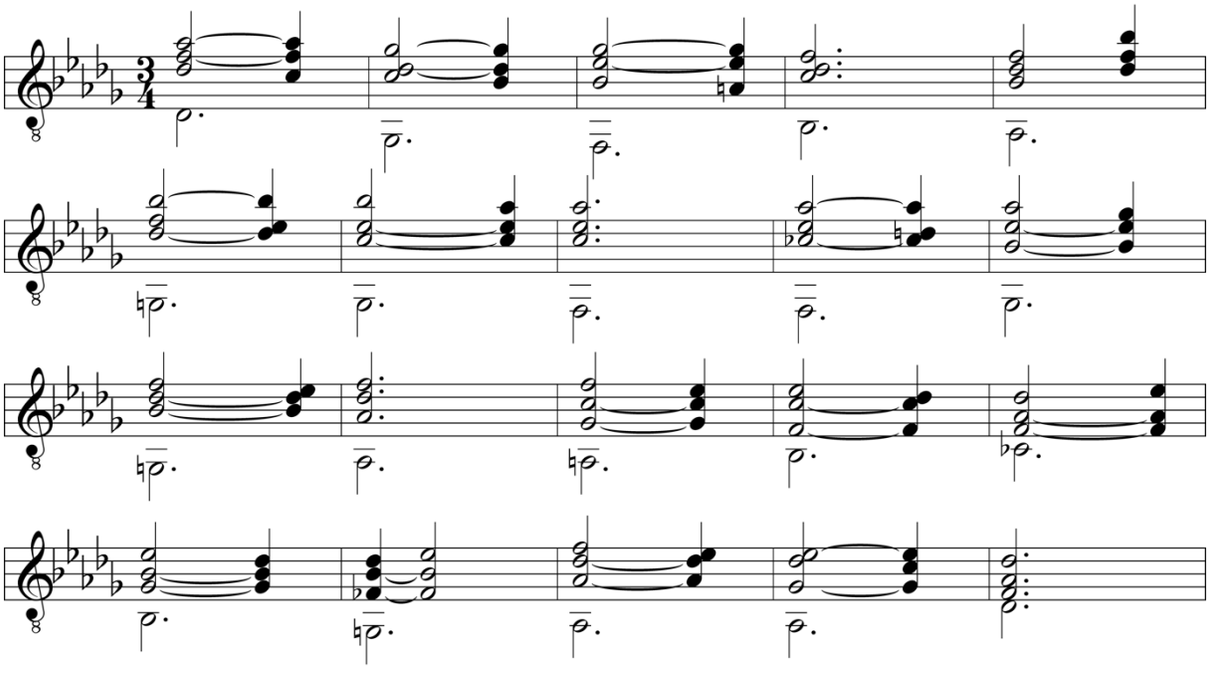
7) Write and play French and German cadences in the following keys:
a) D major
b) E major
c) F major
d) G major
e) B flat major

8) Practice Picardy cadences in different keys and research this type of cadence in various types of popular songs and standard songs.

Characteristic notes

Throughout centuries of the development of harmonic language, dissonances applied to chords were treated in a particular way. Every interval beyond the limits of the triad had to be used according to rules of preparation and resolution. The preparation of a dissonance consisted of having it as a prolonged common note of a consonance in the preceding chord. Its resolution was the natural movement in the search for the harmonic rest characteristic of the tonal system. For example, for a seventh to be inserted into a chord, the note representing it had to be a third, fifth, or root in the preceding chord. The same happened for other complementary intervals or any alteration. The resolutions of dissonances also had to be respected, and thus, a seventh or ninth always followed its descending resolving path. Remember that the aesthetic concept that governed harmonic progressions at that time did not foresee endings in dissonant chords or chords without resolution. The rule for a good progression was rigorous, and it dictated that every dissonance be treated accordingly.

Track 44

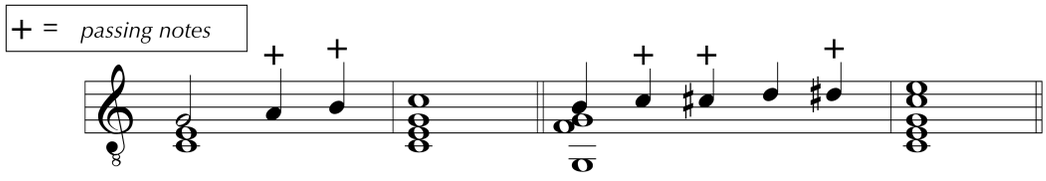


Within this concept, some notes that moved through harmonic progressions via their voices were not analyzed as part of the chord structure but as independent notes with their character. Called

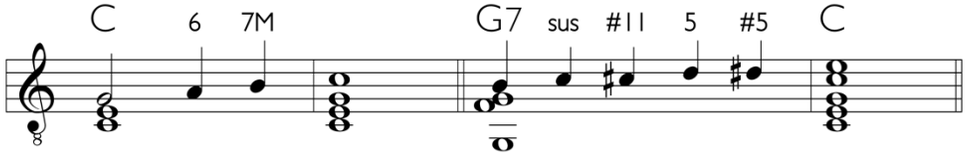
non-harmonic notes, they came to be defined in isolation, and some of them deserve highlighting and review.

Passing notes

These are diatonic or chromatic notes that create melodic movement in the connection between chords and that do not directly belong to them. Within a traditional practice, these notes may be limited to the notes of the diatonic scale from which the chord progressions originate, or they may even present simple chromatic elements.

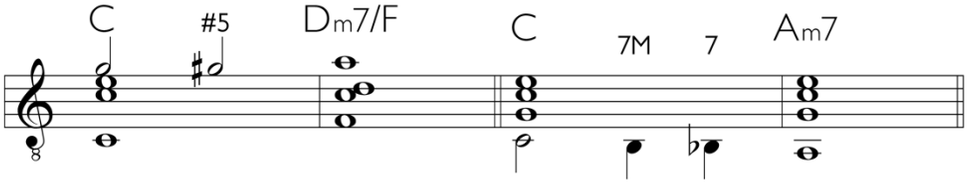


In a broader chromatic concept, passing notes are those that are subject to the criterion of applicability of extensions. The differentiated note will be more effective, providing a better harmonic result, the more it is associated with one of the possible extensions of the chord in question.

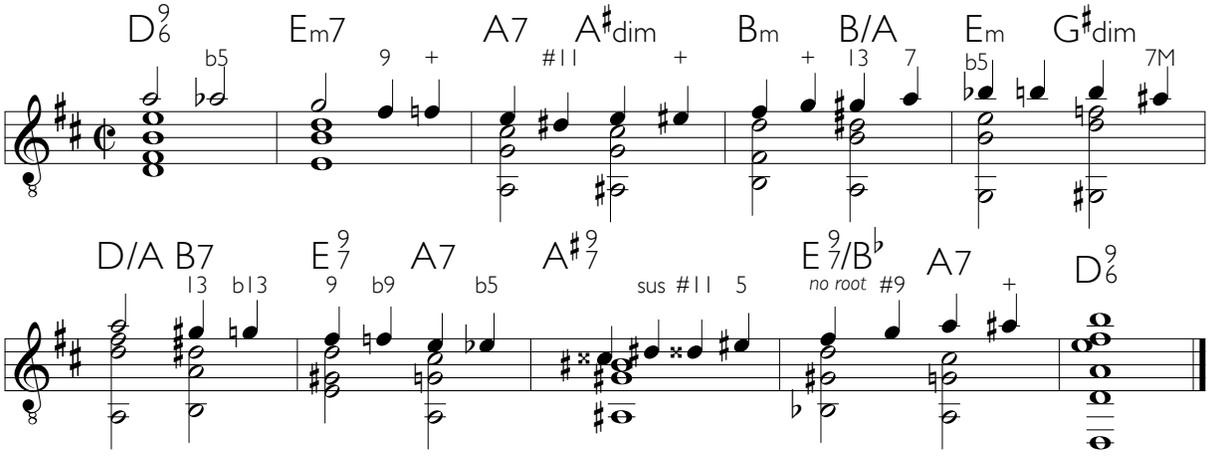


It is advisable that the use of passing notes always be subject to this type of analysis. The correct interpretation of isolated melodic notes can greatly aid in understanding and expanding ideas when dealing with tonal progressions. Certain notes that represent extensions or alterations of a chord affect the entire harmonic process, and to always achieve a satisfactory result in harmonizations, it is necessary to pay attention to this aspect. In a major chord with a tonic function, for example, in addition to the major 7th tetrad, it is possible to insert the 6 and 9 extensions. This means that these notes have complementary quality in the chords. Remember that #5 is also an interval of the tetrad in this function. The remaining notes of the chromatic scale can appear in the harmonic discourse as passing notes that do not belong to the chord in the function in which they were applied. These notes should always appear in an independent melodic movement. Thus, beyond

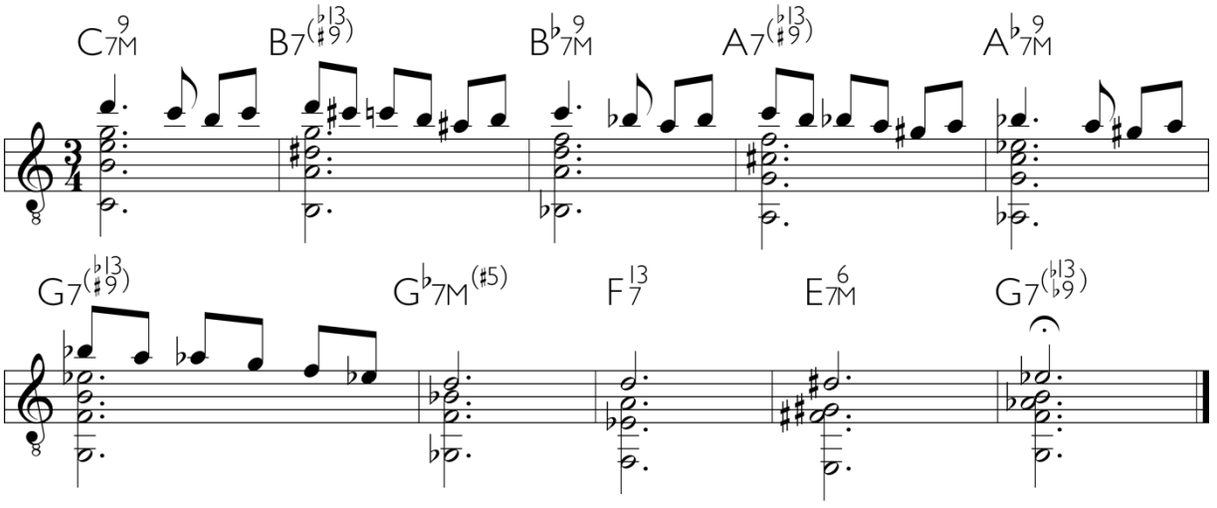
the limits of extensions, passing notes, diatonic or chromatic, can create interesting effects, generating specific tensions in simple progressions.



Track 45



Track 46

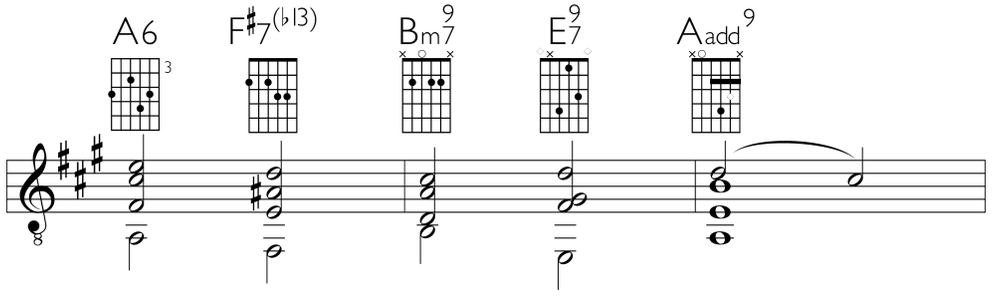


One must continually strive for interval coherence in the application of passing notes within the chromatic concept so that the tensions generated by the alterations are consequential.

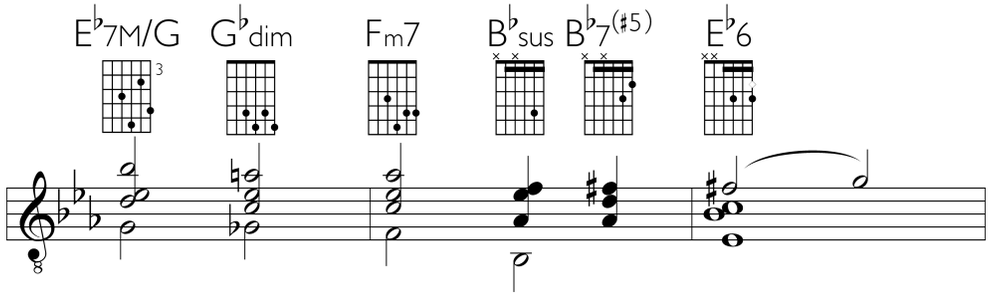
Retardations

Retardations are harmonic resolutions postponed by prolonging notes from one chord over the next. In this practice, the moving notes of a given chord are maintained in the following chord, delaying its resolution. Within a classical aesthetic, retardations occur in cadences where one of the notes of the dominant chord is prolonged over the tonic chord. Retardations can occur through descending or ascending movements, depending on the type of interval or tension from which it originates. The most common retardations are those made over the resting intervals of the tonal system, that is, the root, the third, and the fifth of the tonic chord.

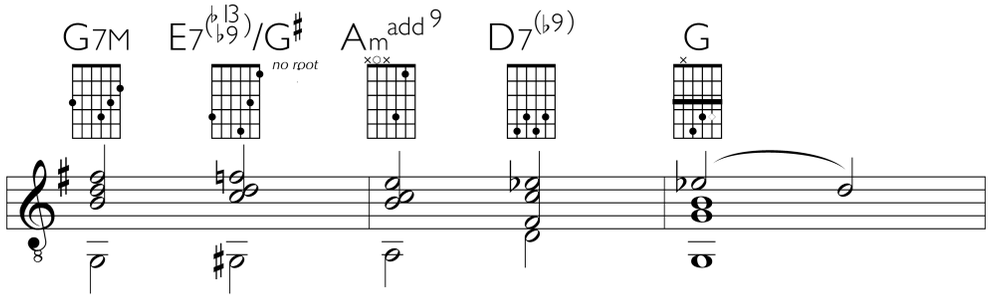
Descending retardation of the third



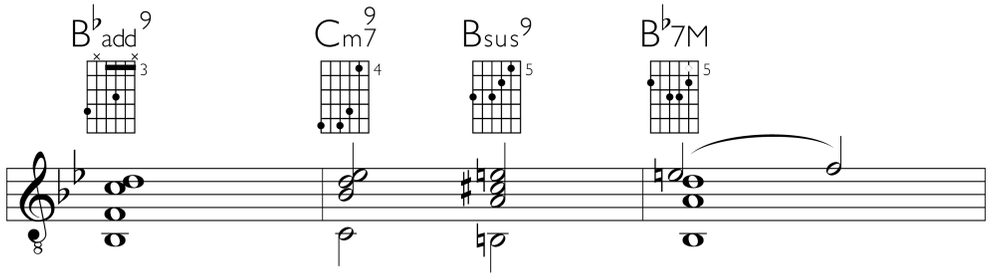
Ascending retardation of the third



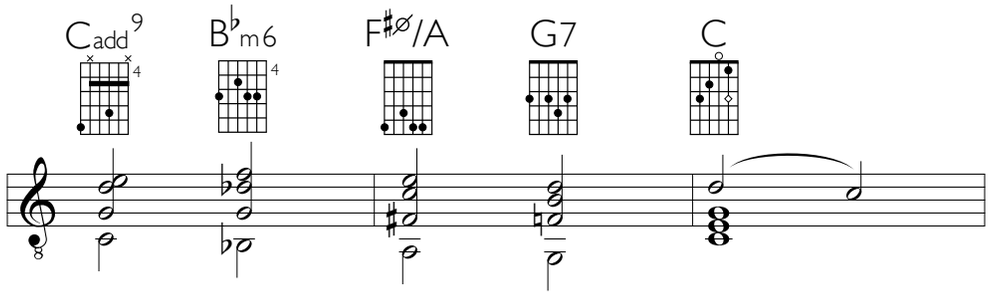
Descending retardation of the fifth



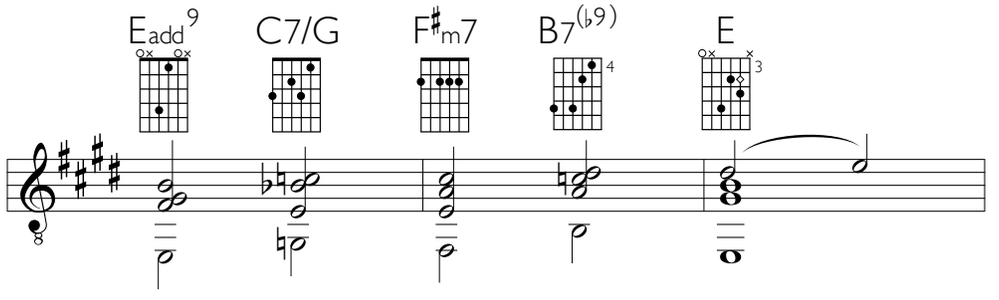
Ascending retardation of the fifth



Descending retardation of the root

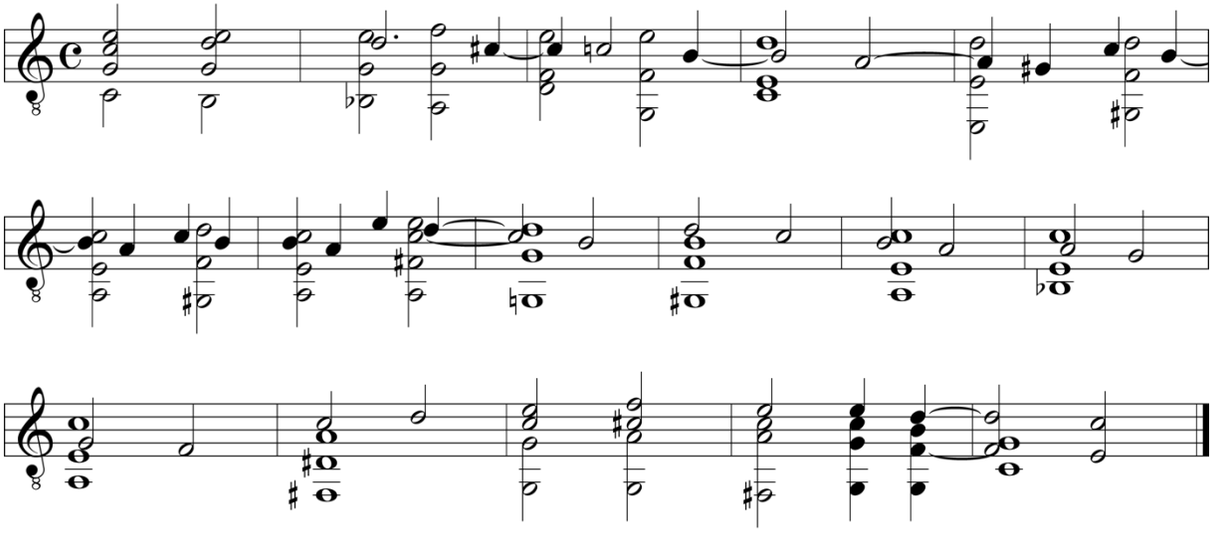


Ascending retardation of the root

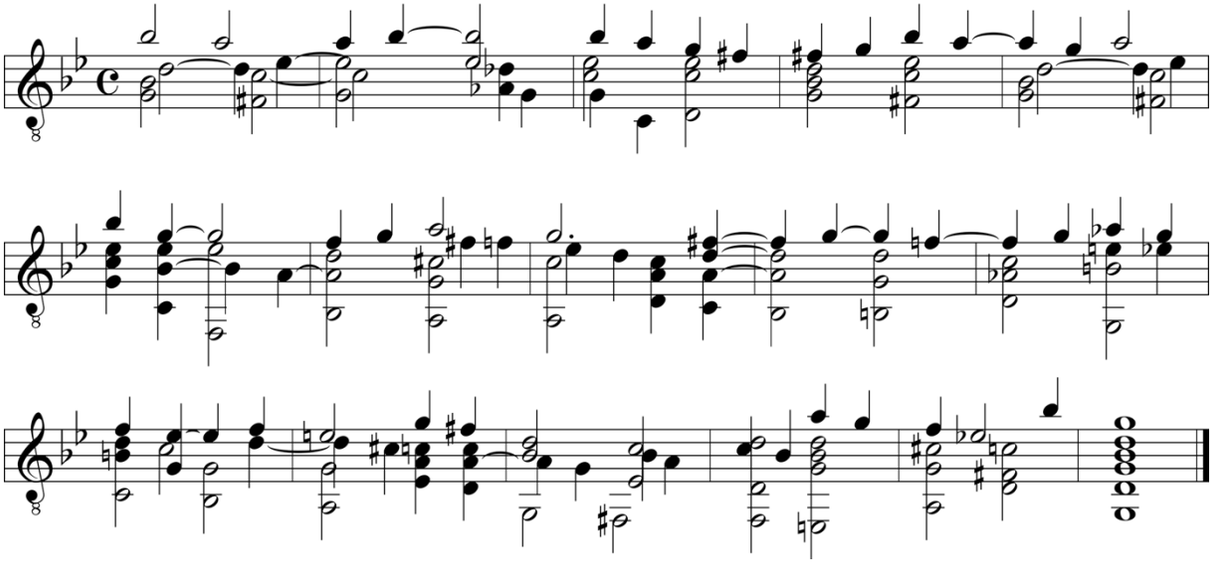


The examples above show the most common types of retardations, which are those practiced on dominant-tonic cadences, made at the ends of musical phrases or periods. Delays can also occur during harmonic progressions and be applied in the connections between diatonic chords, in cadential movements with secondary dominants, or even in diatonic or chromatic harmonic progressions. See the application of this type of retardation in the following examples.

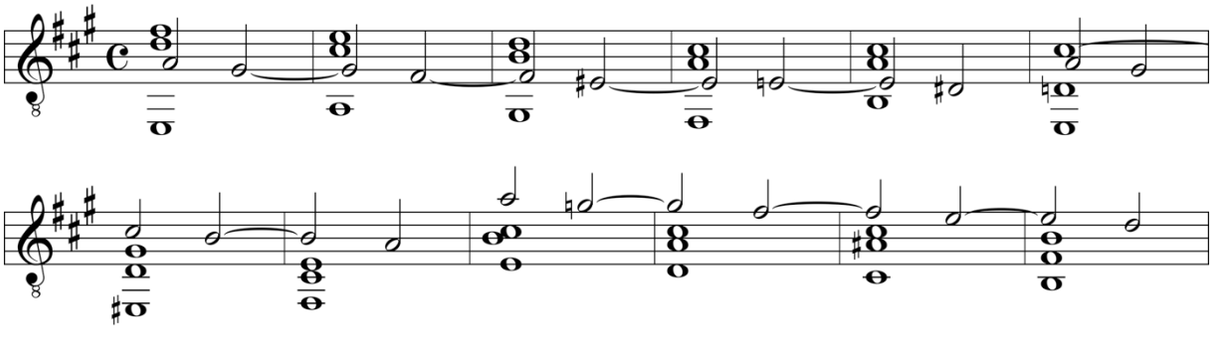
Track 47

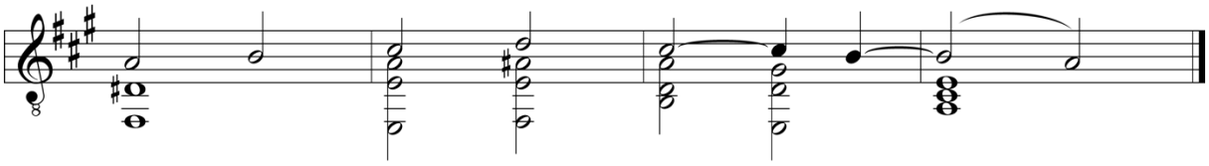


Track 48



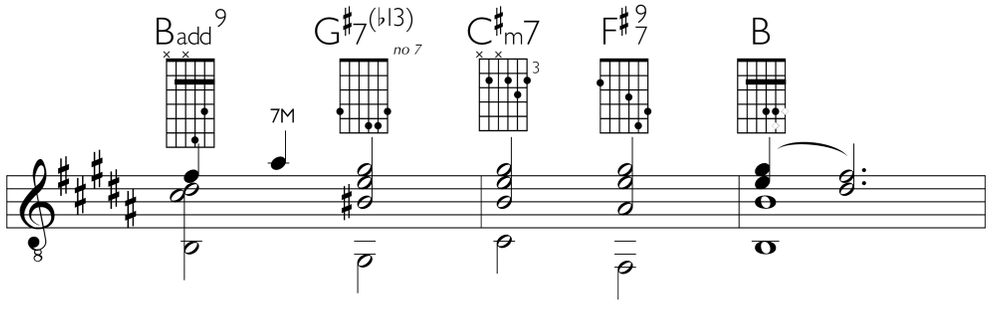
Track 49



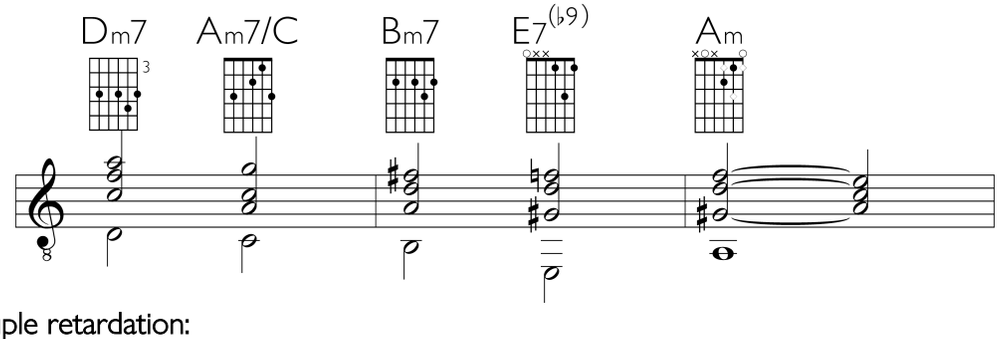


As mentioned in previous chapters, voice leading in tonal harmony is primarily achieved through the chaining of notes or tensions that need to move. All notes or tensions that need to move have a well-defined resolving path. This is the case with sevenths or ninths, which always tend to resolve by descending motion. Altered notes, which represent tensions in chords, also follow the path determined by the type of alteration applied: sharps resolve ascending, and flats descending. Thus, if we have different tensions or notes that need to be moved within the same chord, these can be retarded simultaneously, resulting in double, triple, and even quadruple retardations.

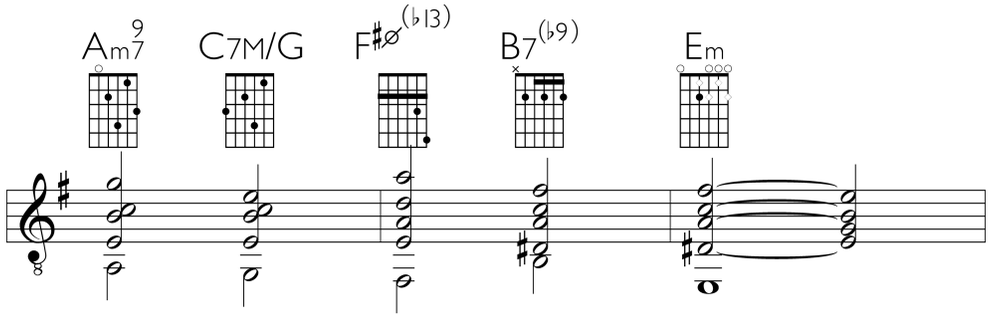
Double retardation:



Triple retardation:

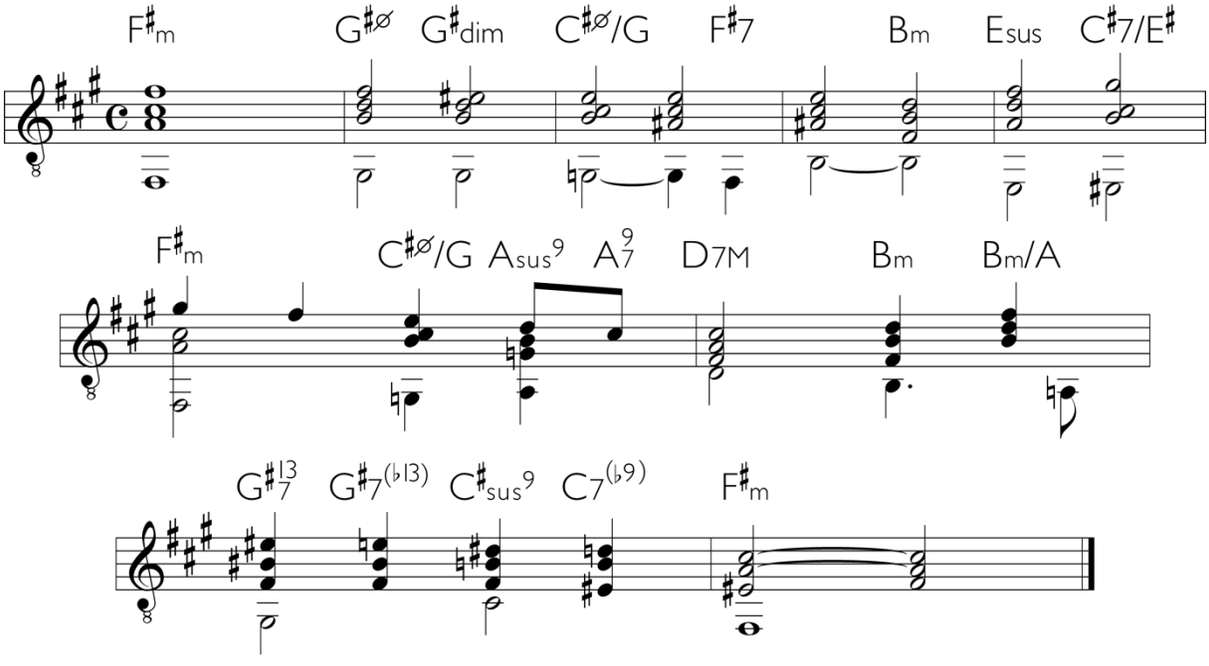


Quadruple retardation:



In the case of triple and quadruple retardations, what occurs is the suspension of all the notes of the dominant chord that extend over the tonic chord. Only the bass performs the cadential movement, and the remaining voices are maintained.[1] The intervals of the dominant chord that extend are the following: third, fifth, seventh, and ninth. This type of harmonic practice comes from European classicism, and, within a conventional harmonic analysis, triple and quadruple retardations are also called dominant-over-tonic chords and can occur in both major and minor modes.

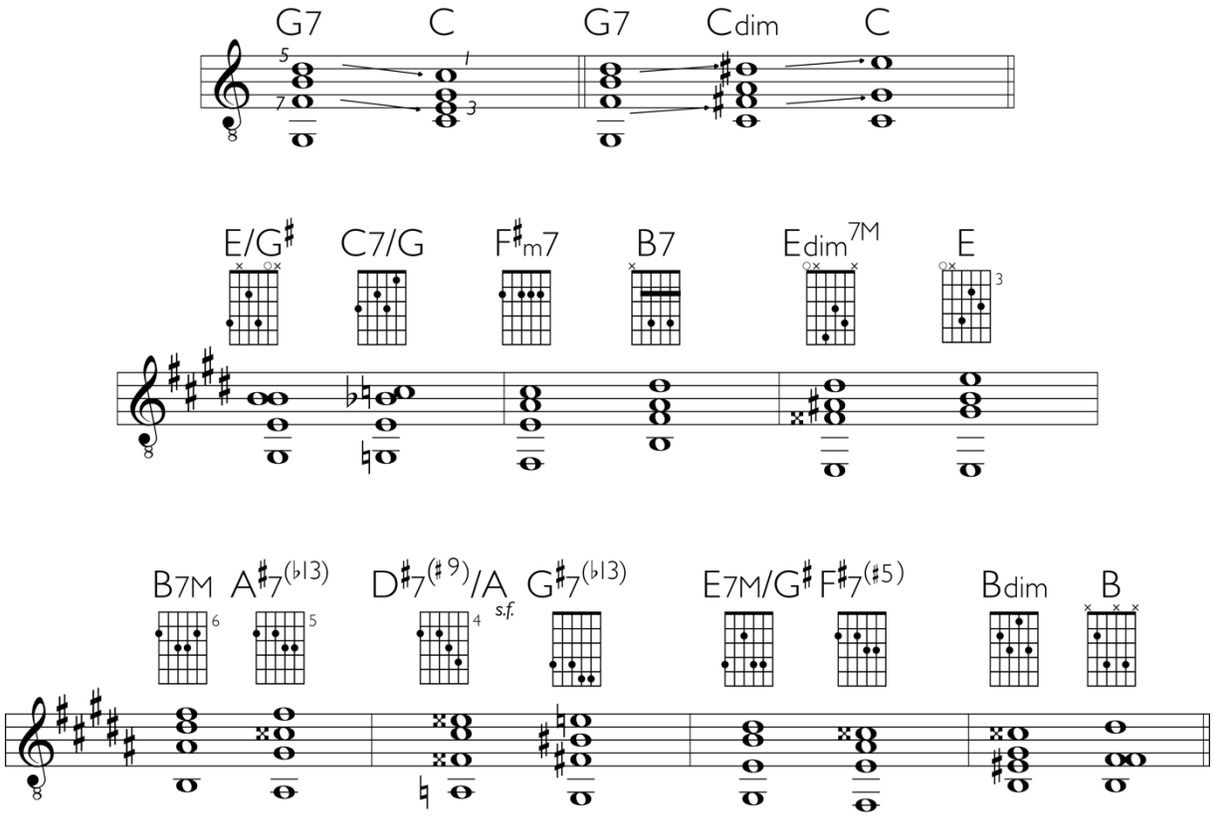
Track 50



[1] *Note that in quadruple retardations, five-voice chaining is necessary.*

Retardation of the tonic by a non-dominant diminished chord

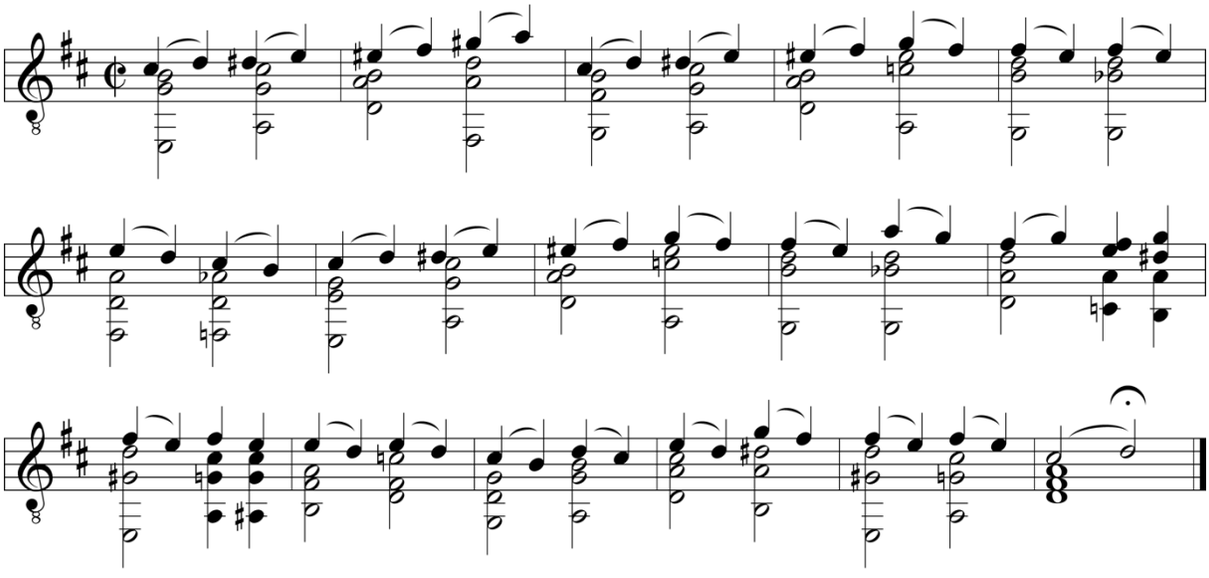
There is also a way to delay the tonic chord resolution in perfect cadences. This is achieved by including a diminished chord between the dominant chord and the tonic chord. This new progression reverses the direction of the resolving notes of the dominant chord, creating surprise and enriching the harmonic discourse. The seventh and fifth intervals of the dominant, which naturally resolve by descending motion, have their paths reversed, resolving upwards.



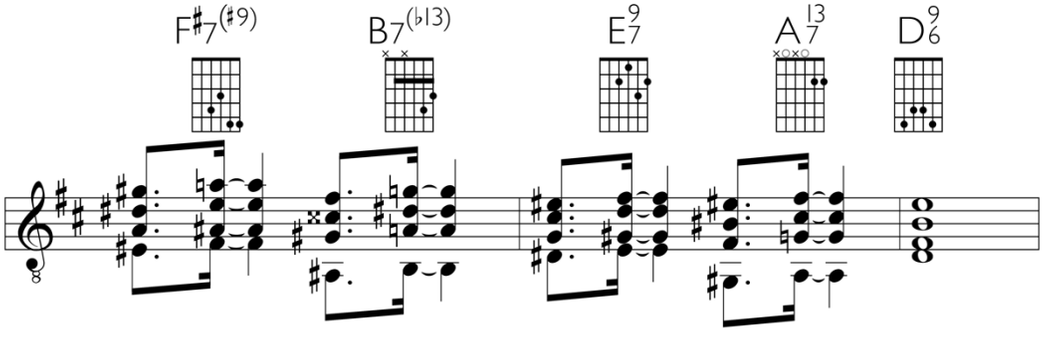
Appoggiaturas

Appoggiaturas are small melodic ornaments, diatonic or chromatic, applied to the intervals of chords in a tonal progression. While the intervals that form the retardations always appear prepared in the preceding chord, the appoggiatura is presented without any preparation. Appoggiaturas, like retardations, can also be ascending or descending. When played on only one of the chord's voices, they are simple appoggiaturas. When they occur simultaneously on two or three notes of the chord, they are double or triple appoggiaturas.

Track 51

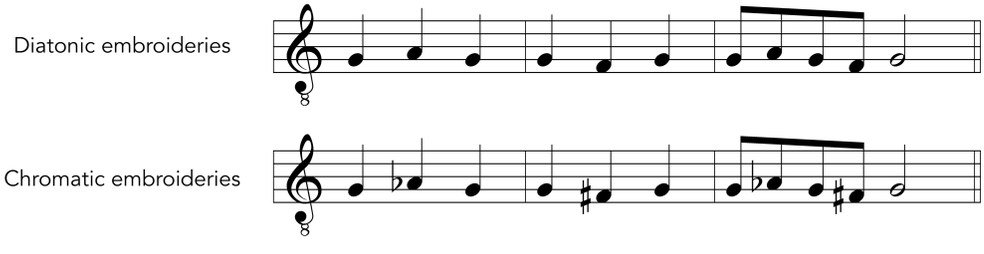


In jazz, the appoggiatura chord, which makes an ascending or descending chromatic connection with the main chord, is very common. In these cases, all the voices of the chords move in parallel motion by semitone to reach the target chord.

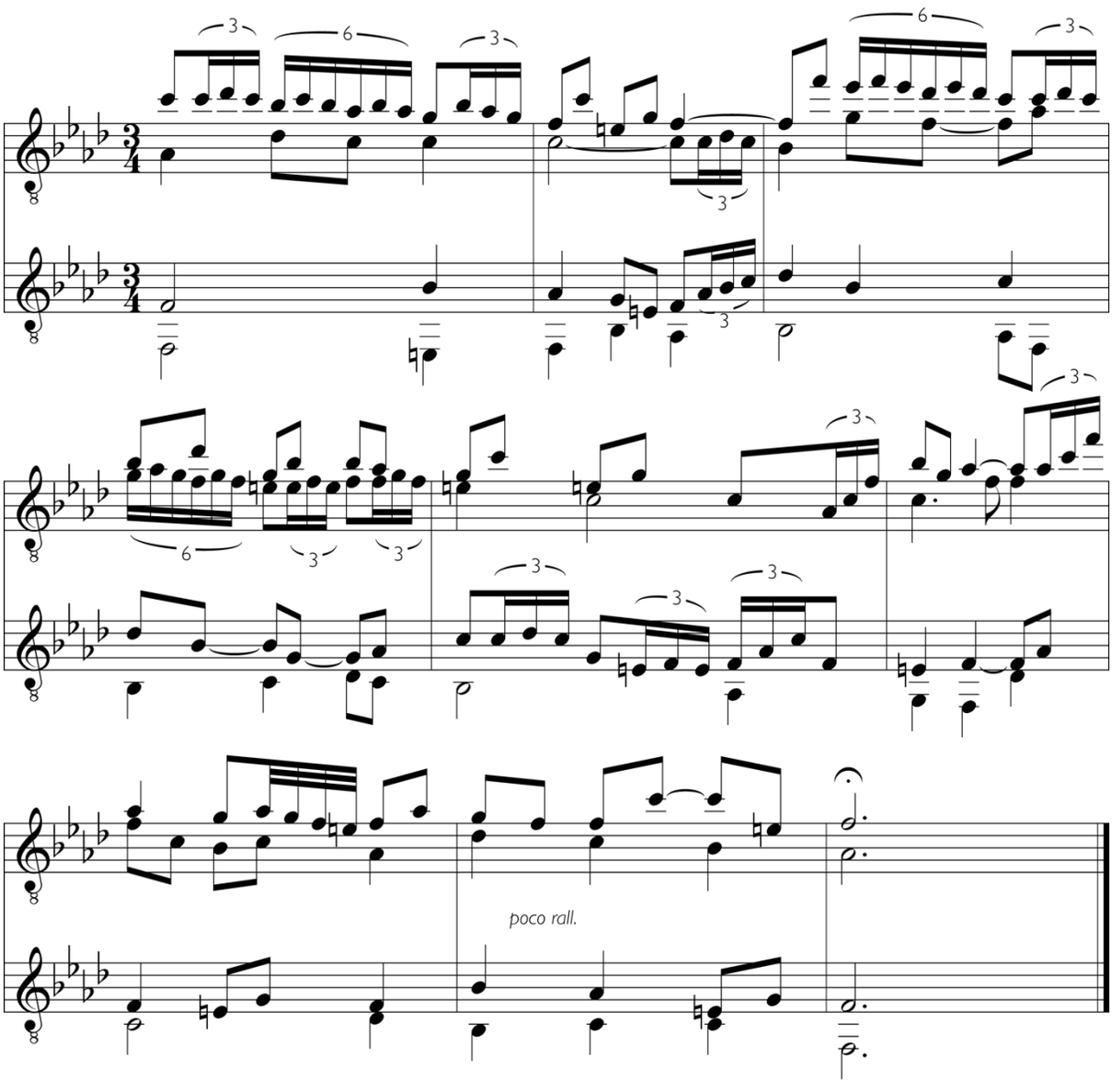


Embroideries

Embroideries are a harmonic effect that consists of applying melodic, diatonic, or chromatic gruppettos to each of the chord voices without altering their function.



Track 52



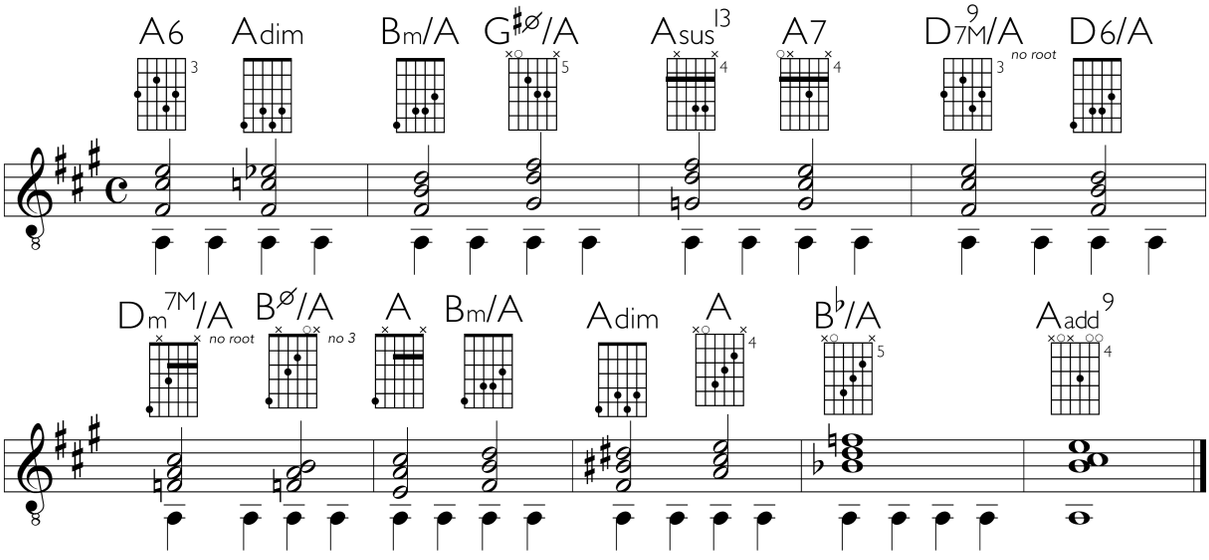
Bass pedal point

The pedal point is a fixed note, generally on the tonic or dominant, that remains constant throughout the chord progression. Its most frequent application is in the cadential movements of the last period of a musical piece. The application of the bass pedal became established in the European Baroque period, especially with Bach, Buxtehude, and other organists of the time. The name "pedal" comes from the very instrumental characteristic of the organ, where the lowest notes are played with the feet and, for this reason, are called "pedal."

Tonic pedal point

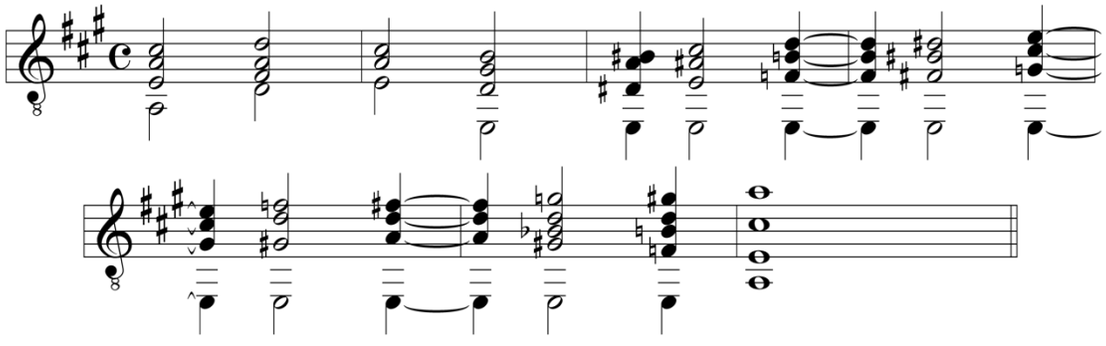
The tonic pedal point maintains the tonic in the bass throughout the entire chord progression. This note must be common to all chords. The section where the tonic pedal is applied can be restricted to a diatonic progression, or it can serve as a common note when using secondary dominants or modal borrowing chords. See these situations in the following example.

Track 53



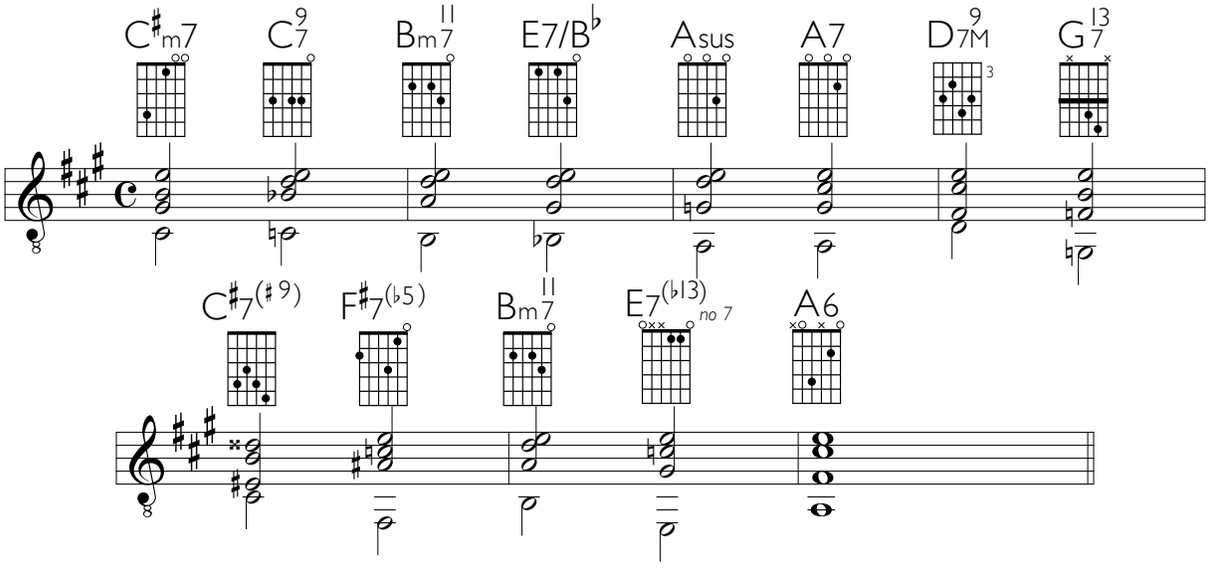
Dominant pedal point

A dominant pedal is an ostinato on the note representing the fifth degree of the scale that serves as the tonal basis for the chord progression. The connection of the chords used can also be diatonic or chromatic, and the objective of this harmonic effect is to create a prolonged state of instability before the final resolution on the tonic chord.



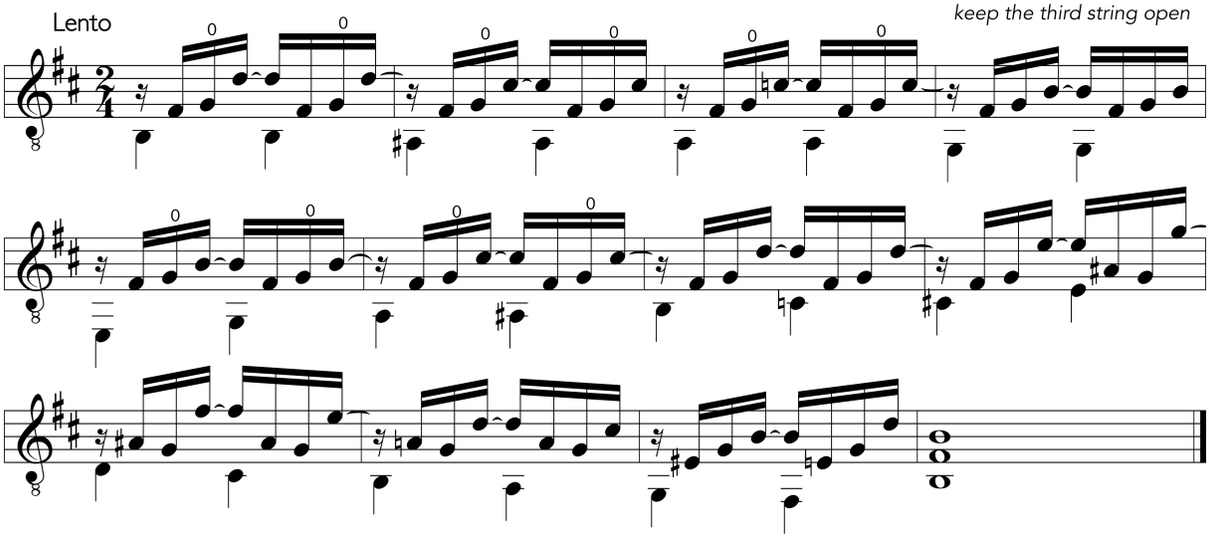
The pedal point applied to the upper voices

Just as we have the effect of the pedal point applied to the basses, tonic or dominant, we can also refer to any fixed note that stands out in a harmonic progression as an “inverted pedal point.” It's common to see some tonal progressions where the highest note remains constant, acting as a kind of pivot for the chord progressions. In this case, since there is no melodic movement in the high voice, the dynamics of the progressions are given by the remaining notes of the chords. Besides being in the upper part of the chords, the “inverted pedal point” can also remain constant in the middle voices.



Here is an example of an inverted pedal point in the middle voice, on the G string of the guitar.

Track 54



Exercises:

1. Apply appoggiaturas to regular harmonic sequences.

2. Apply ascending and descending embroideries to well-known melodies. Practice these embroideries while maintaining coherency with the type of chord in which they will be used: diatonic if it is a diatonic chord or chromatic if the chord is a secondary dominant or a borrowed chord.

3. Apply the non-dominant diminished chord in perfect cadences of different keys.

4. Develop sequences with a tonic pedal point.

5. Develop sequences with a dominant pedal point.

6. Develop sequences with inverted pedal point.

7. Practice the root, third, and fifth retardations in the following cadences:

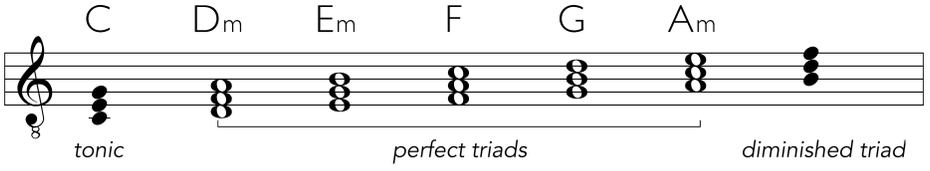
1)	C^{9}_{7M}	$B^{\varnothing}$	E7	Am
2)	C^{9}_{6}	Gm7	$C7^{(\flat 9)}$	F6
3)	$C_{add}{}^{9}$	$E^{\varnothing}/B^{\flat}$	$A7^{(\flat 13)}$	Dm
4)	C^{6}_{7M}	$B_{sus}{}^{9}$	$B7^{(\flat 9)}$	Em7
5)	C6	Am7	D^{9}_{7}	G7
6)	C	Dm^{9}_{7}	G^{9}_{7}	$A^{\flat}7M$
7)	Cm^{9}_{7}	$D^{\varnothing}$	G7	Fm7
8)	Cm^{7M}	$A^{\varnothing}$	$D7^{(\flat 9)}$	G7
9)	Cm7	Fm7	$G7^{(\flat 9)}$	$A^{\flat}{}_{add}{}^{9}$
10)	Cm	$A^{\flat 9}_{7}$	$G7^{(\sharp 11)}$	Cm^{9}_{7}

8. Apply passing notes, diatonic and chromatic, to the following chord progressions:

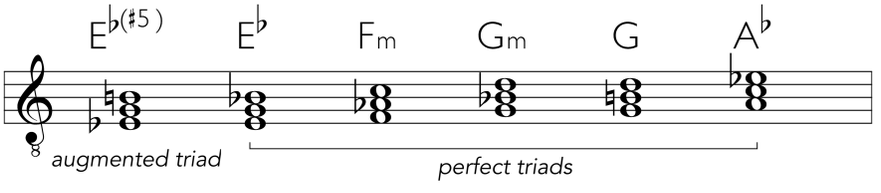
1)	$F\sharp^{dim}$	F^{dim} $E7$	Am^{add9}	
2)	Em Em/D	$F\sharp^{\varnothing}/C$ $B7$	Em	
3)	$B7M$ $A\sharp7^{(\flat13)}$	$D\sharp^{\varnothing}/A$ $G\sharp7$	$C\sharp m7^{9}$	
4)	$E6$ E^{dim}	$F\sharp m/E$ $D\sharp^{dim}$	$E6$	
5)	C $Gm7$	$G7^{9}$ G/F	C/E	
6)	Am^{add9}	$B^{\varnothing 9}$ $B\flat7^{\flat9}$	Am^{add9}	
7)	$B\flat/A\flat$ $Gm6$	$C^{\varnothing}/G\flat$ $F6$	$E7^{9}$	$E\flat7M^{9}$
8)	$F7M$ $G7^{(\sharp11)}$	$Gm7$ $C7^{(\flat9)}$	$F7M$	
9)	$G6/B$ $B\flat m6$	$Am7^{11}$ $D7^{(\flat9)}$	$G6^{9}$	
10)	$Cm7^{9}$ $F7^{13}$	$Fm7^{9}$ $G7^{(\flat13)}$	Cm^{7M}	

Tonal fields

The traditional tonal harmonic concept teaches us that each of the diatonic scales within the tempered system represents an independent and isolated tonality. This framework gives us twenty-four scales and consequent tonalities: twelve major and twelve minor.[1] Each of these tonalities is represented by a single diatonic scale and its respective chords. Some chords formed from major and minor diatonic scales can change function in different tonal situations. For some of these chords to perform a tonic function, they must have perfect triadic structures. A perfect triadic structure is one consisting of a major or minor third and a perfect fifth on a root. On a major scale, for example, perfect triadic structures occur on the II, III, IV, V, and VI degrees, in addition to the first degree, which represents the tonic of that tonality.



In minor scales (harmonic minor, melodic minor, and natural minor), there are five perfect triads and one augmented triad that receive secondary cadential support:

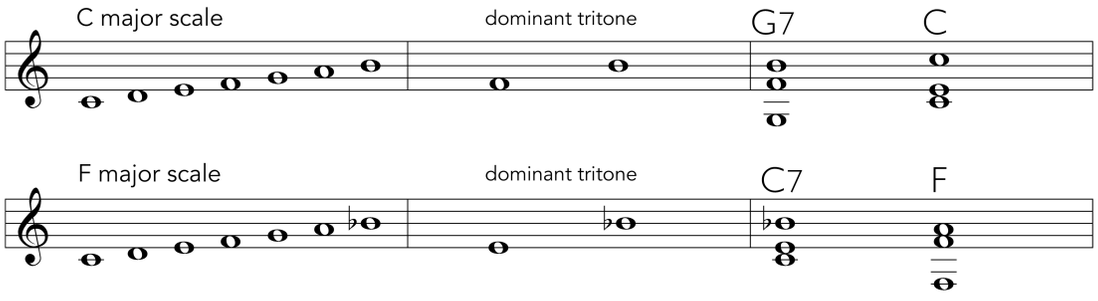


Perfect triads, which are part of major diatonic scales, and perfect and augmented triads, which are part of minor scales, represent so-called neighboring tonalities, those that differ by only one alteration in their respective key signatures. When we use secondary dominants, what occurs are cadences over the chords of diatonic scales represented by perfect triads. The alterations that arise in the application of secondary dominants polarize with these triads of major and minor scales. It is correct to think that, in this secondary cadential path, the scalar structure will be altered in function of the momentary rest sought. And that, according to the traditional concept, these

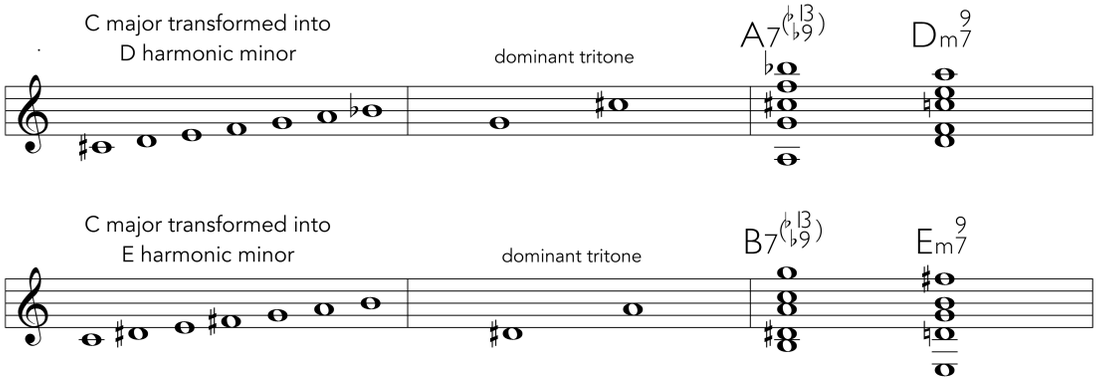
[1] *J.S. Bach, in his work 'The Well-Tempered Clavier', demonstrated the possibility of using all major and minor keys. This work consists of twenty-four 'Preludes and Fugues', each in a different key.*

paths represent passing modulations, since a scale differentiated by an alteration and its resulting chords will provide harmonic governance of the passage.

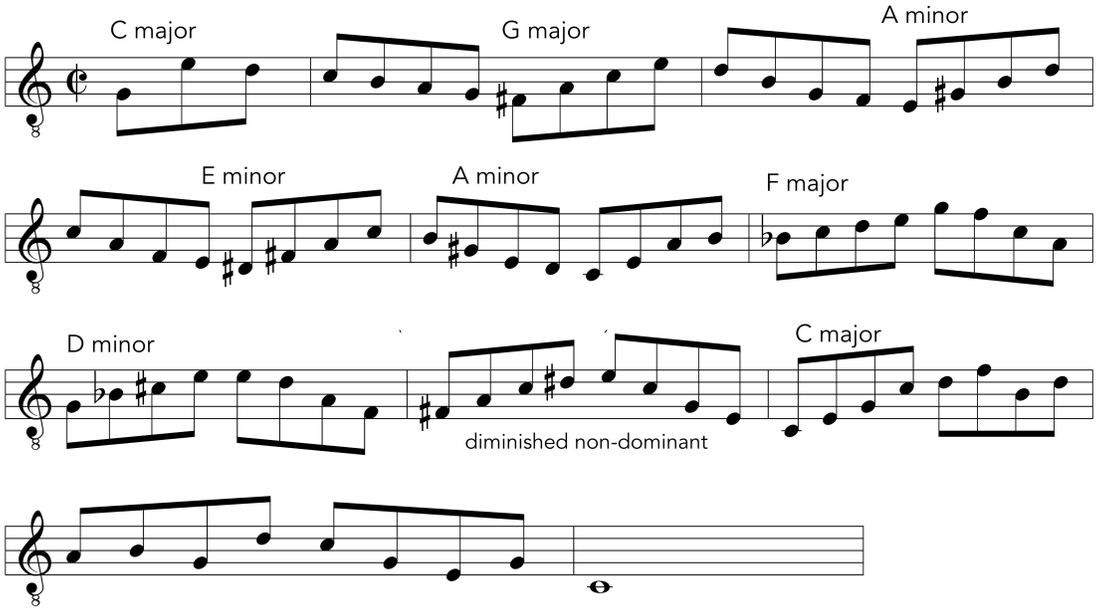
Let's take the C major scale as an example, which only has natural notes. Imagine that the note **B**, the seventh degree of this scale, is altered to **B flat**. The result is that the C major scale transforms into an F major scale, and, consequently, some chords will also be modified. The same happens with the relationship between them: the tritone of the dominant of C major – **F-B** – will cease to exist, and a new tritone – **E-B flat** – will be formed. With the emergence of the new tritone, the cadential force will no longer reside in the combination **G7→C** *(dominant-tonic)*, now transformed into **Gm7→C7** *(subdominant-dominant)*, and will occur from the resolving force of the **E-B flat** tritone in the **C7→F** cadence.



See how the presence of other alterations leads us, respectively, to the chords of the second and third degrees of the C major scale:



In the following melody, the alterations of the secondary dominants suggest cadences over the chords that represent those degrees:

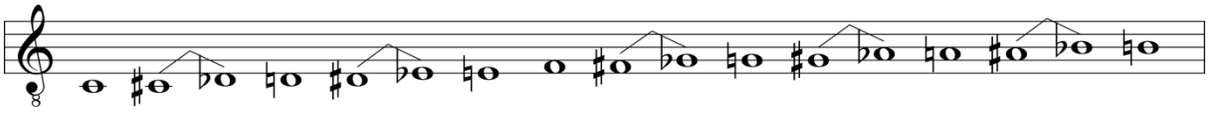


In the functional harmonic concept, all chromatic alterations of the scale can be used without abandoning the original tonality. A passing alteration does not always mean an effective modulation, since soon after applying the melodic tensions, we return to one of the chords of the main scale. The boundary between what is or is not a modulation is a useless discussion and does not contribute to learning the more profound meaning of tonal procedures. In general, we consider that modulation is complete when an entire musical period remains in the new tonality. If this is not the case, the resulting alterations can either signify tension for one of the chords of the main scale (in the case of secondary dominants and auxiliary diminished chords) or the presence of a borrowed chord, which only modifies the harmonic color without modifying the tonal focus.

What really interests us is the role that secondary dominants play in expanding the range of chords used within the same tonal plane. In addition, what we have are the chords derived from the remaining alterations that complete the chromatic total. The use of all chromatic possibilities within the same tonal plane forms the chord chart that we call the **Tonal Field**.

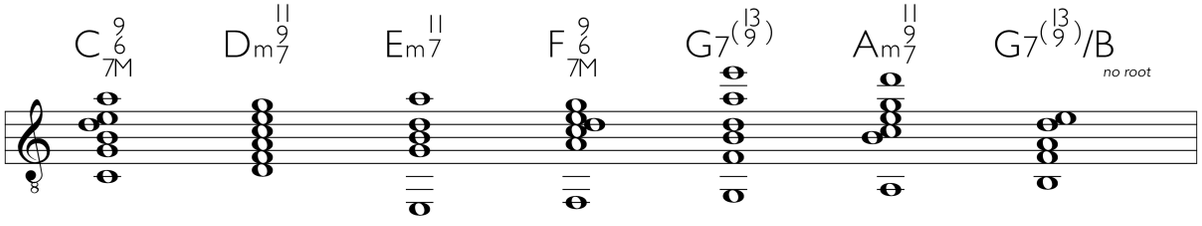
The **Tonal Field** is formed by chords that are structured on the chromatic total explained by the 17 notes of Tonal Harmony (see corresponding chapter), where all alterations resolve to the notes of the main scale.

In addition to the diatonic base, formed by any of the four tonal scales presented, we also have the five chromatic notes and their enharmonic that complete the following chart:

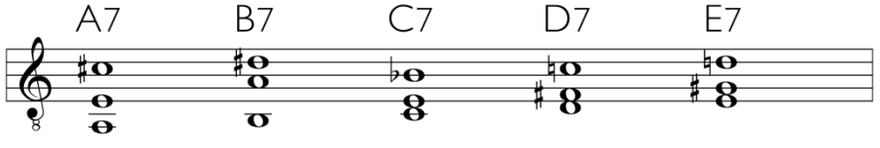


See how the C major tonal field is structured:

1. The C major scale and its respective chords as a starting point:



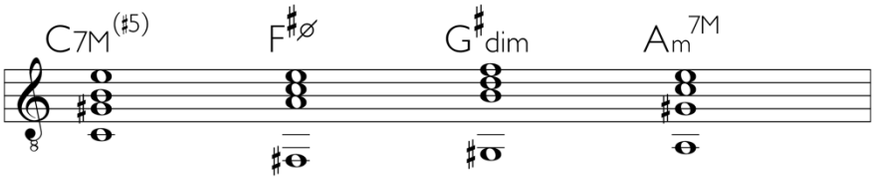
2. Expanding the chord chart by applying secondary dominants and their natural and altered extensions:



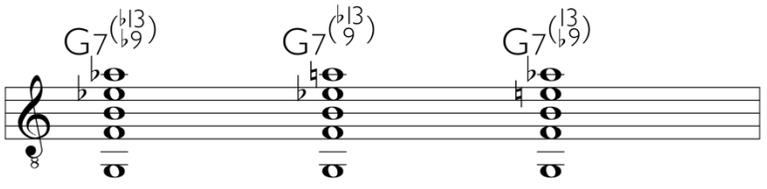
3. Use of secondary dominants combined with their respective cadential pairs. Remember that a cadential pair can be formed by the combinations II-V, IV-V, or VI-V:

Note:
*The cadential pair – **Am7 - D7** – going to G major – can have a double interpretation: **Am7** can be treated as the **VI of C major** or as the **II of G major**, that is, it can have C major or G major as reference scales. The same happens with the cadential pair **Bø - E7**, where **Bø** can be interpreted as belonging to the **C major scale**, or already presenting the **G#** characteristic of the **A harmonic minor scale**.*

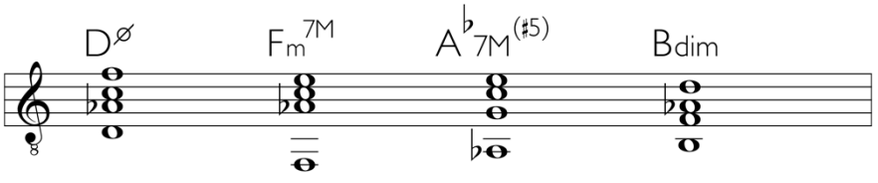
4. Differentiated chords of relative minors:



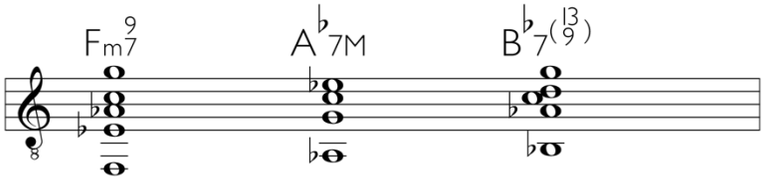
5. Dominants of homonymous scales:



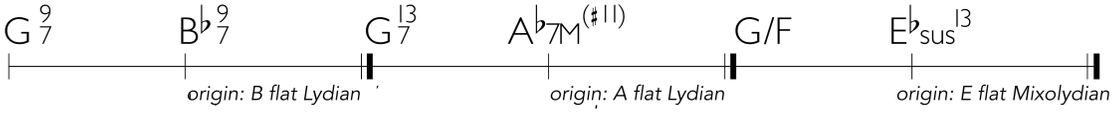
6. Differentiated chords of the homonymous harmonic major scale:



7. Modal borrowings, starting with the differential chords generated from the homonymous natural minor scale *(Aeolian mode)*:



8. Other modal chords, associated with modes derived from the major scale, melodic minor scale, and symmetrical modes (see 'Modal Harmony – Volume III'). Many of them are applied through exceptional resolutions of the dominant chord:

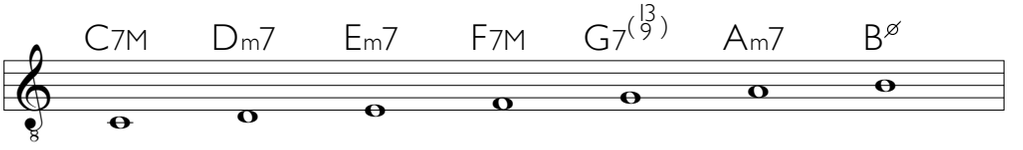


Below is a summary of the most frequently used chords within major and minor tonal fields.

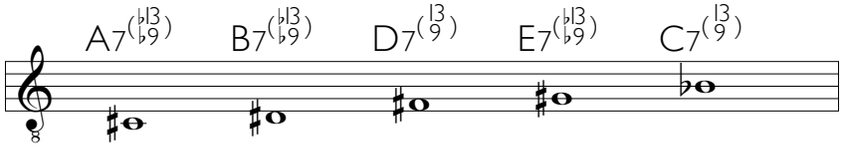
Tonal field for major keys

C major tonal field

C major scale

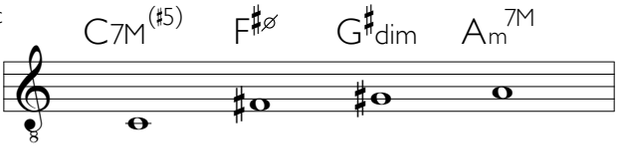


Secondary dominants alterations



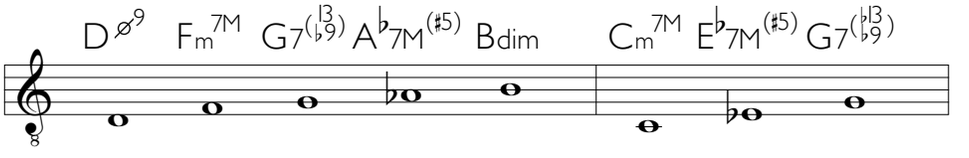
Relative minor scales

A minor - harmonic and melodic
differecial chords



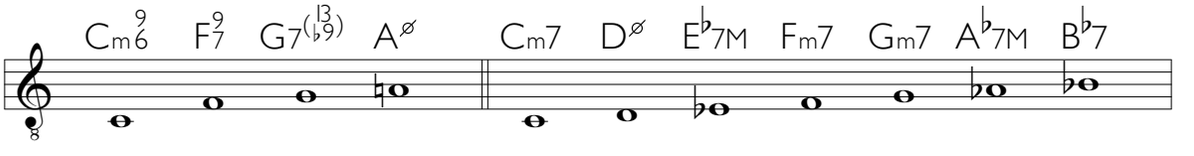
C harmonic major
differencial chords

C harmonic minor
differencial chords



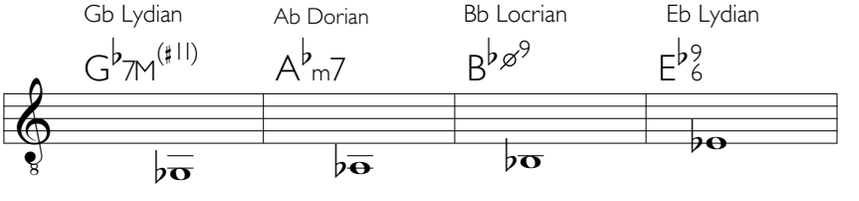
C melodic minor
differencial chords

C natural minor
differencial chords



Modal borrowing chords

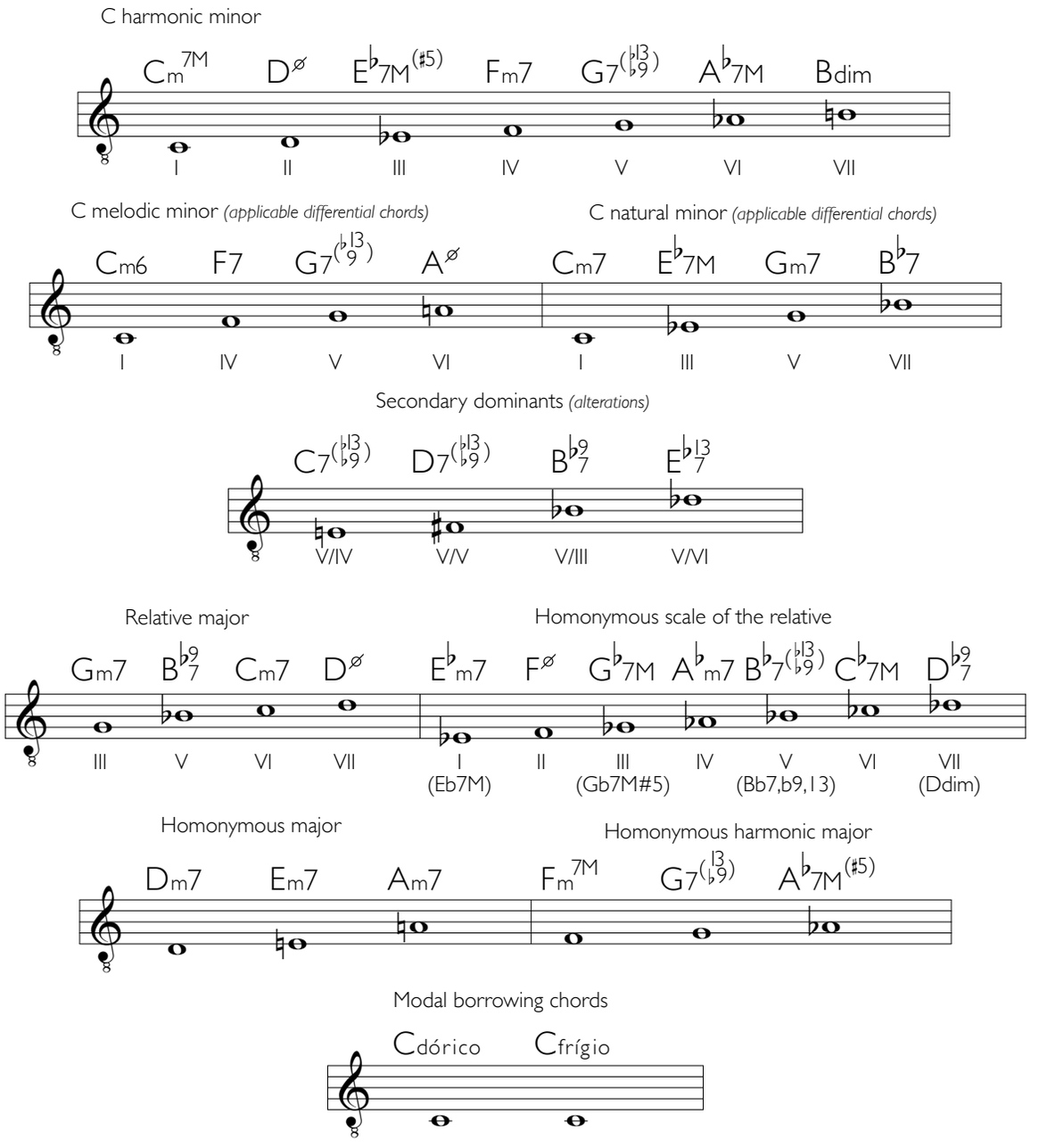
Gb Lydian Ab Dorian Bb Locrian Eb Lydian



This is merely an illustrative chart that does not limit the possibilities. Note that the options for borrowing chords go beyond these limits with the application of extensions, omissions, inversions, exceptional resolutions, and altered dominants.

Tonal field for minor keys

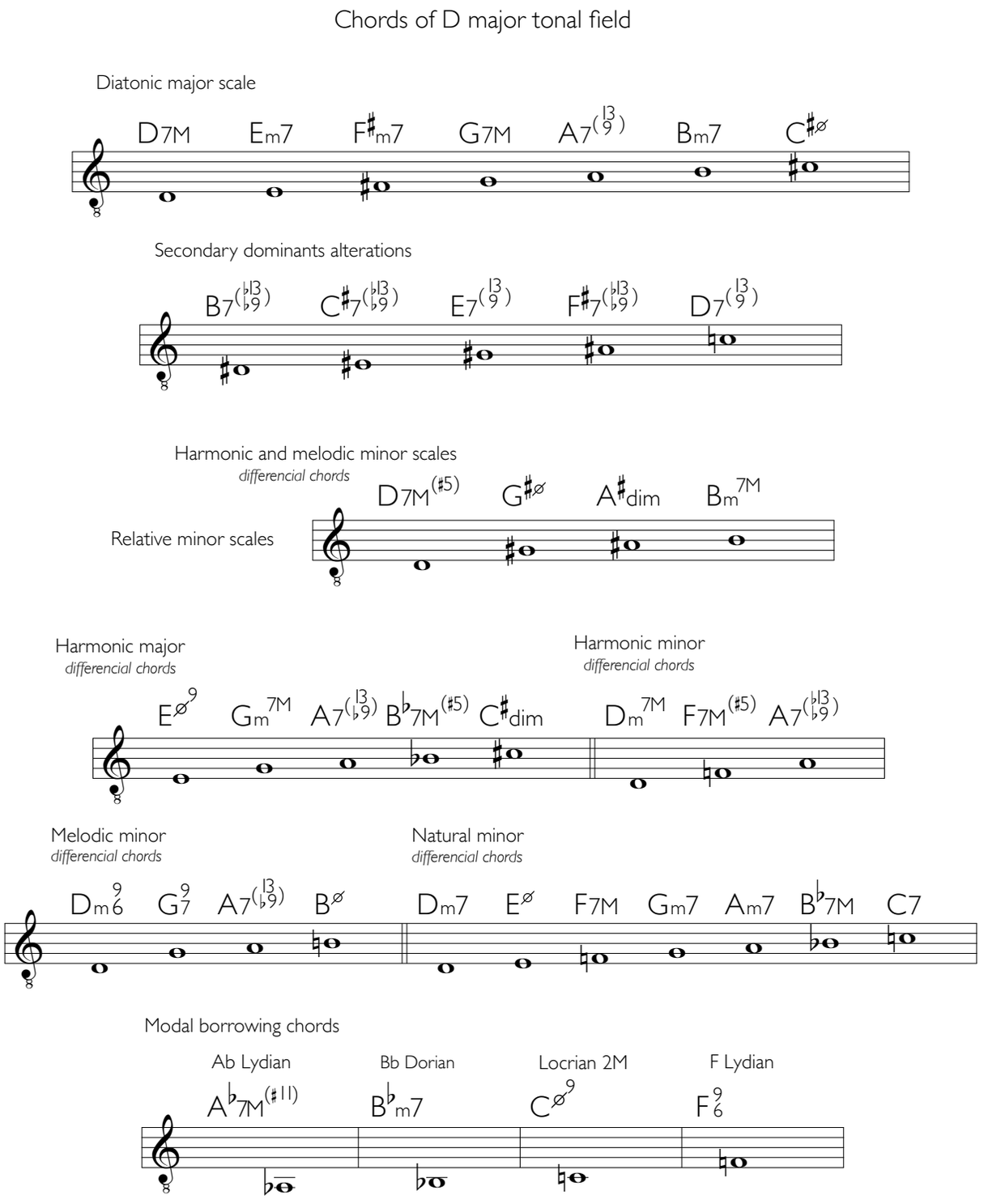
C minor tonal field



Note:

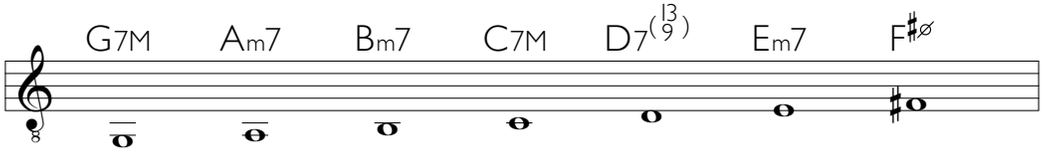
Other borrowed chords can also be applied to a minor tonal region through exceptional resolutions of the dominant chord, turnarounds, or chromatic approximation resolutions. Altered dominant chords can also be applied.

Other examples:

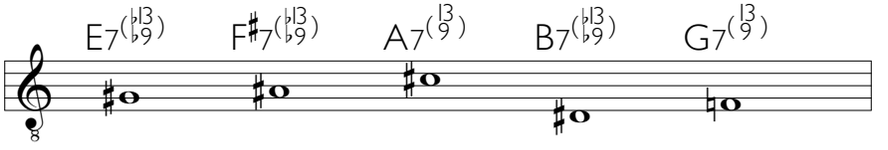


Chords of G major tonal field

Diatonic major scale



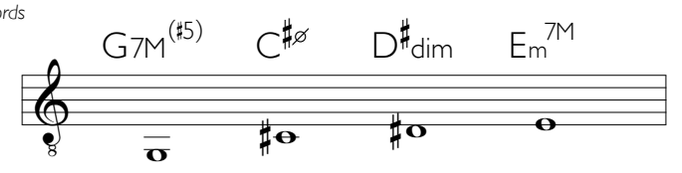
Secondary dominants alterations



Harmonic and melodic minor scales

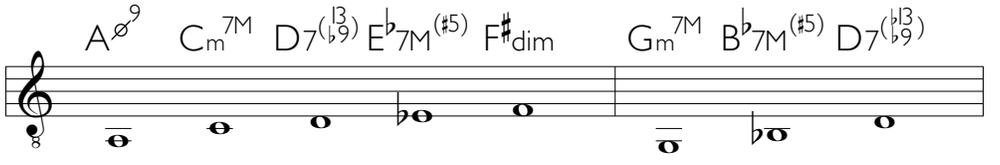
differencial chords

Relative minor scales



Harmonic major

differencial chords

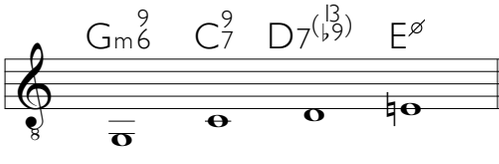


Harmonic minor

differencial chords

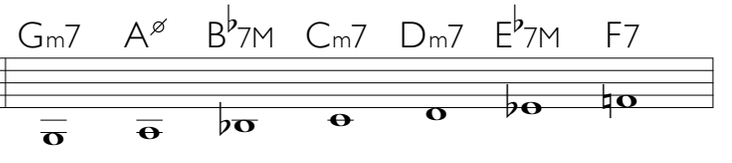
Melodic minor

differencial chords

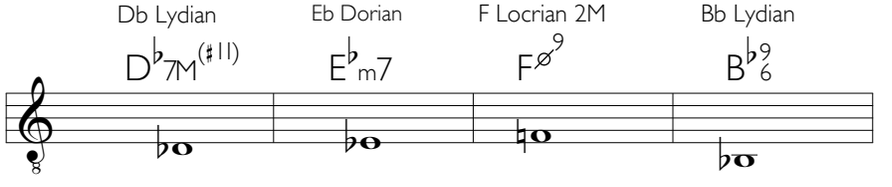


Natural minor

differencial chords

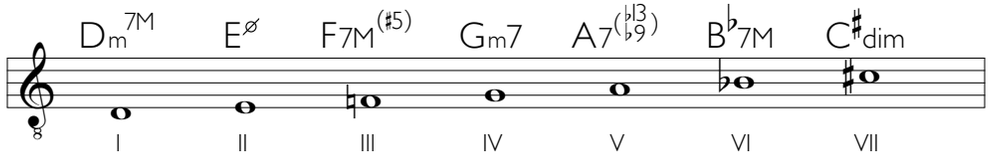


Modal borrowing chords



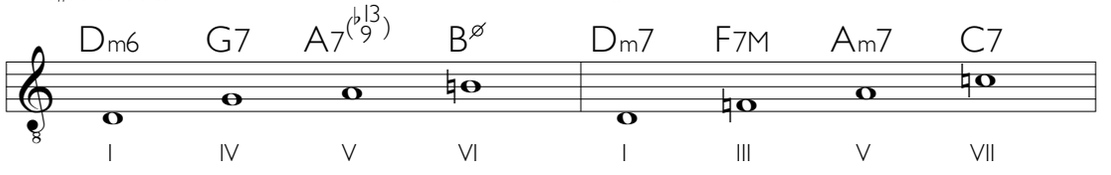
Chords of D minor tonal field

Harmonic minor

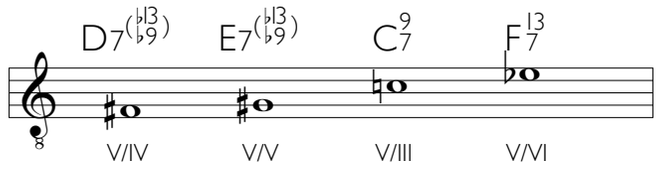


Melodic minor
differencial chords

Natural minor
differencial chords

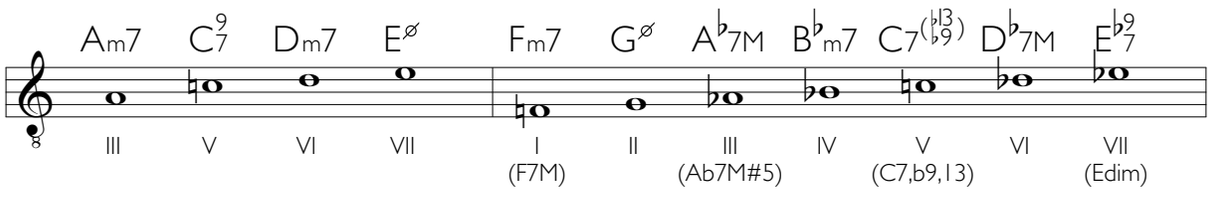


Secondary dominants



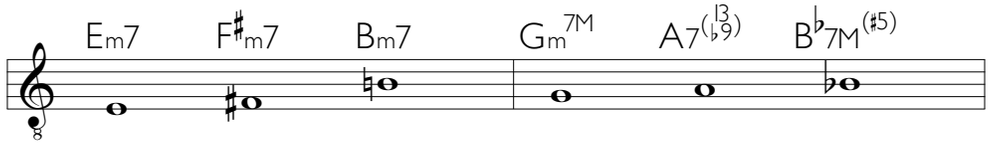
Relative major

Homonymous scale of the relative

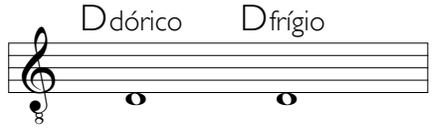


Homonymous major

Homonymous harmonic major

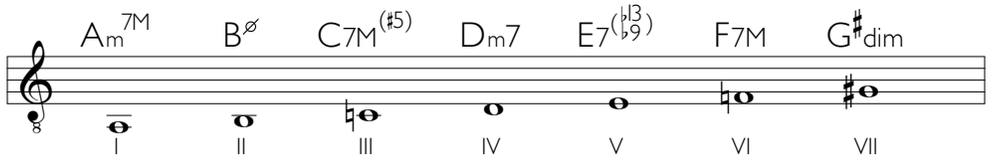


Modal borrowing chords

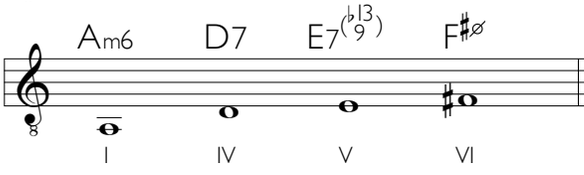


Chords or A minor tonal field

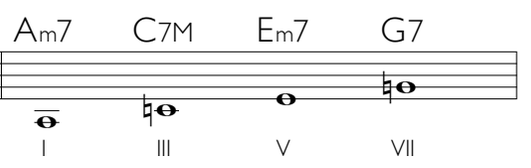
Harmonic minor



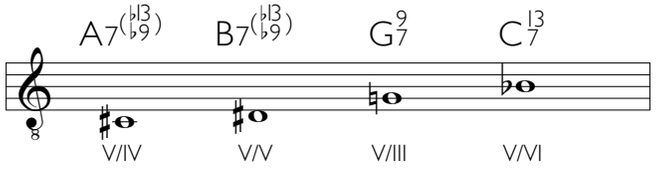
Melodic minor
differencial chords



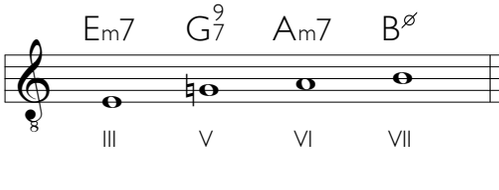
Natural minor
differencial chords



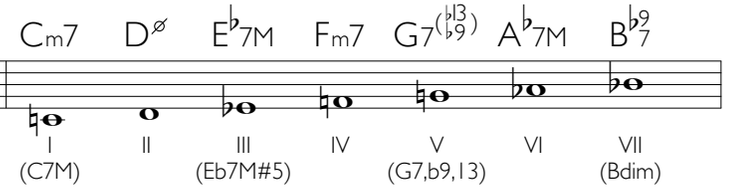
Secondary dominants



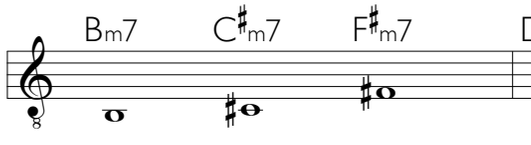
Relative major



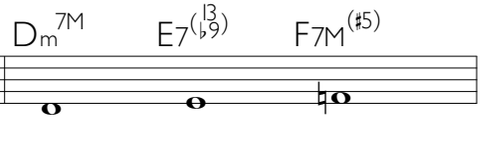
Relative homonymous



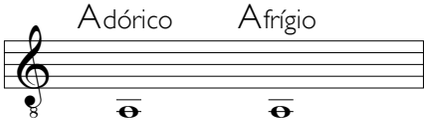
Homonymous major



Homonymous harmonic major



Modal borrowing chords



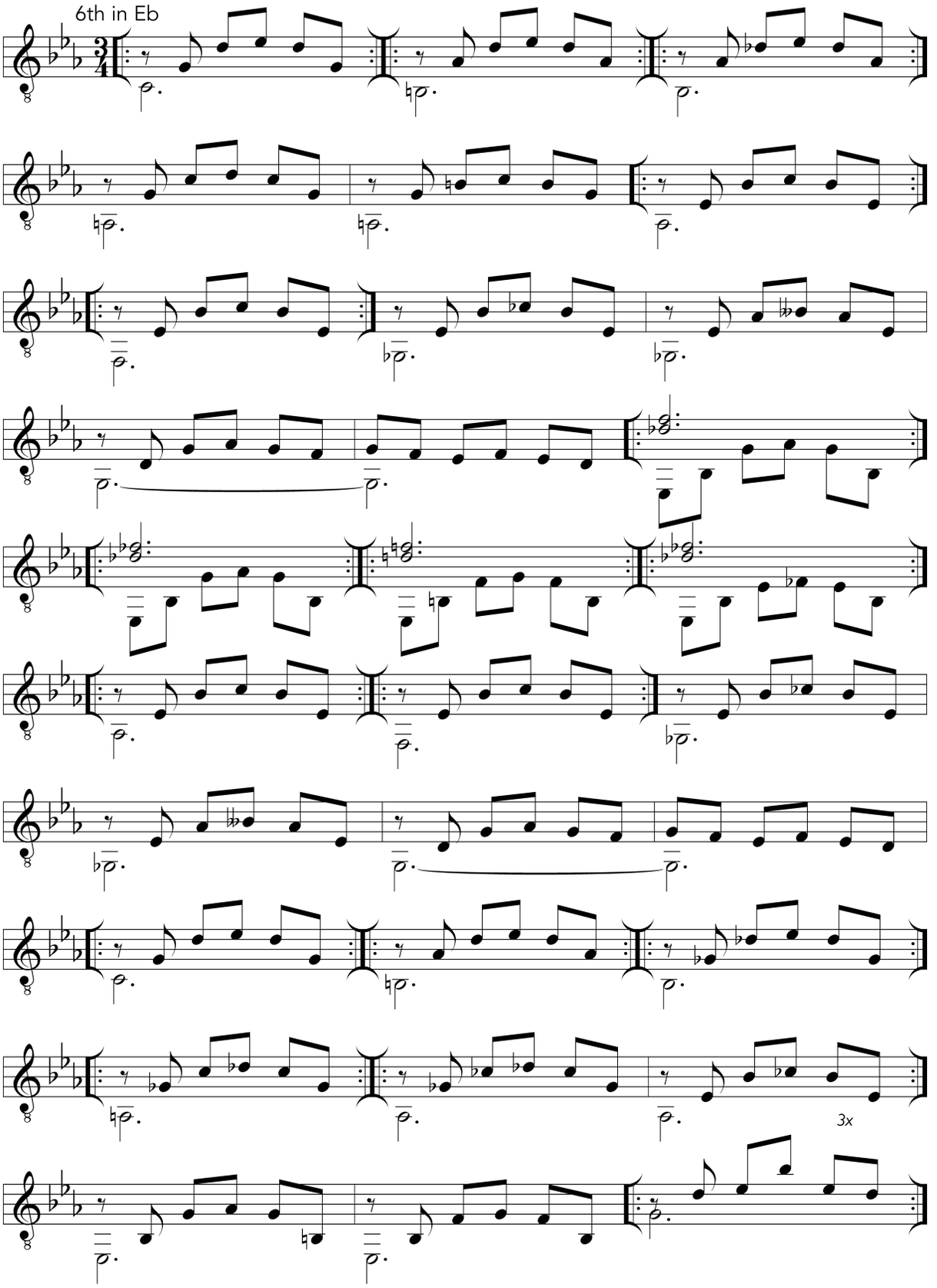
Exercises

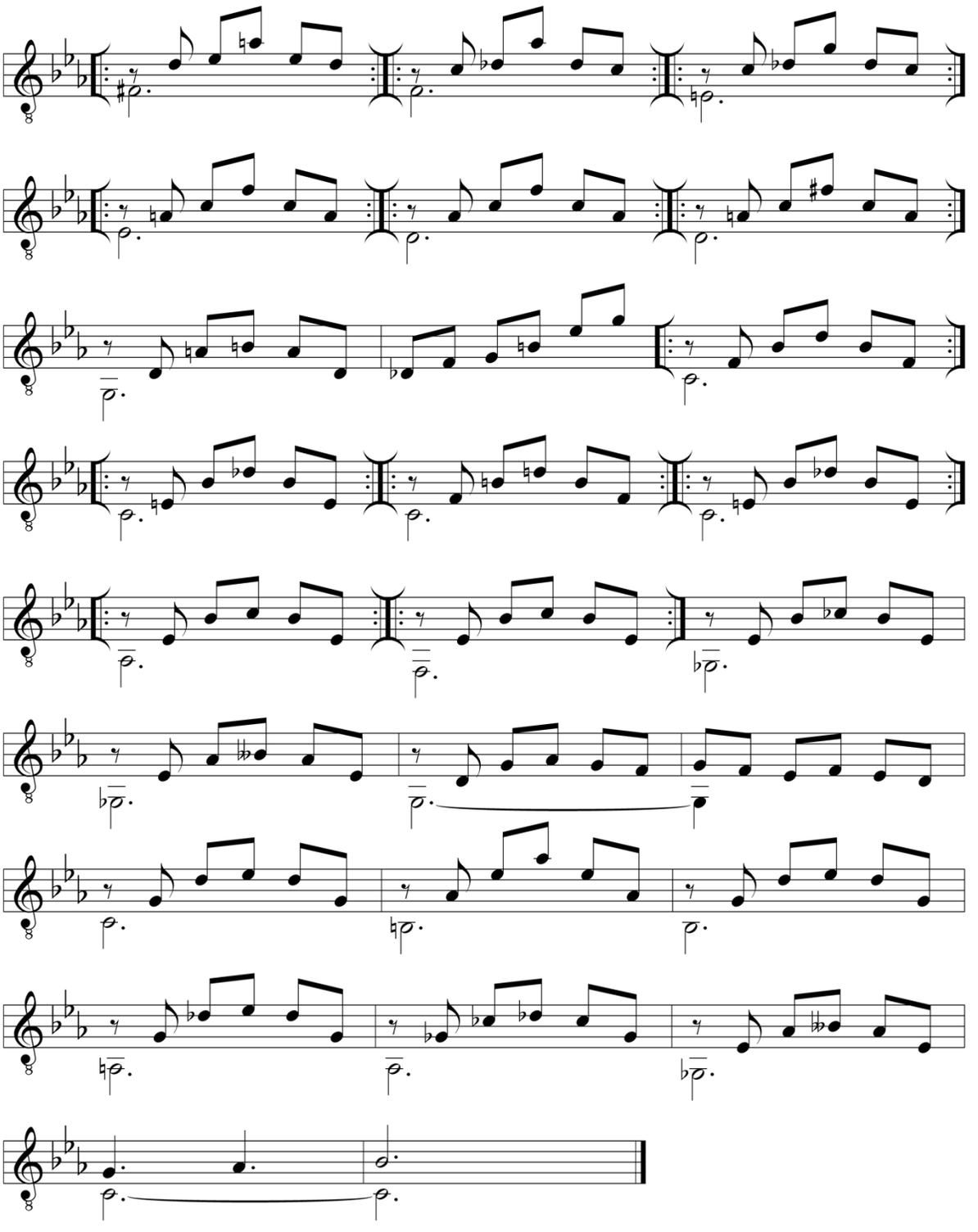
1. Write the tonal field for the following keys:

    a. F minor
    b. C sharp minor
    c. A major
    d. E major
    e. G minor
    f. E flat major
    g. B minor
    h. F major
    i. B flat major
    j. E minor
    k. D major
    l. A flat major
    m. F sharp minor
    n. G major
    o. D flat major

2. What does Abm7 represent in C minor?
3. What does $F^{\#\emptyset}$ represent in C major?
4. What does Ebm6 represent in G minor?
5. What does $A7M^{(\#11)}$ represent in A major?
6. What does F/E represent in E major?
7. What does $Db7^{(9)}$ represent in A flat major?
8. What does $D^{\emptyset}$ represent in A minor?
9. What does Bbm6 represent in D minor?
10. What does $B7^{(9)}$ represent in C major?

11. Analyze the chords in the following excerpt:

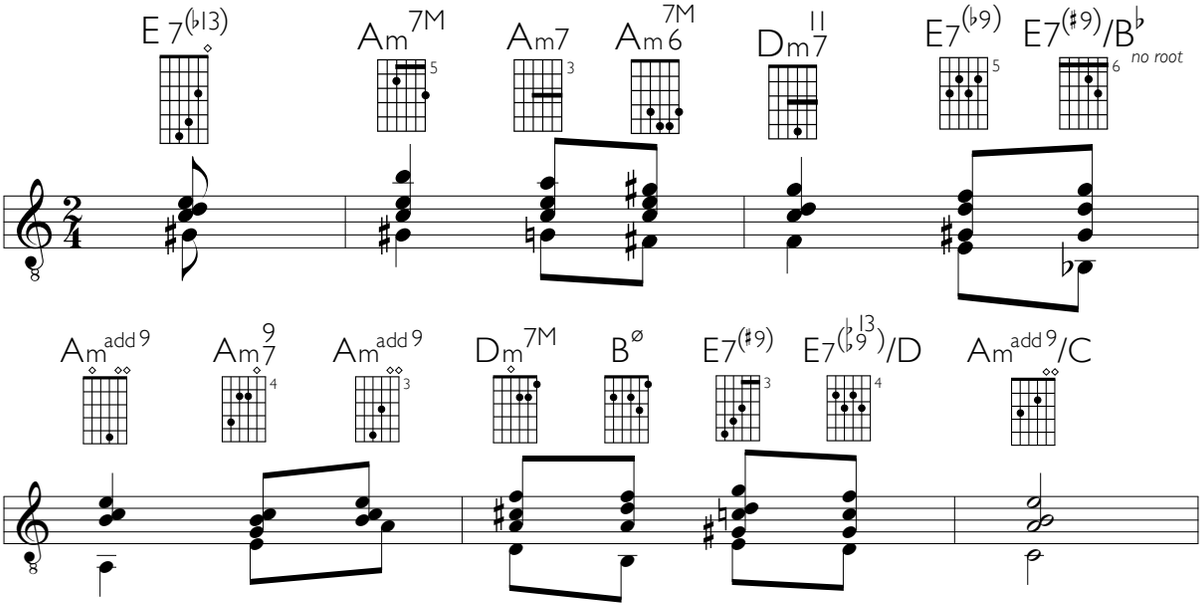




Chord melody

Chord melody is a form of harmonization, characteristic of the jazz language, where each note of the melody of a selected theme is harmonized with a chord in a closed presentation. The structures of a chord melody are usually made in three or four voices in parallel motion. These chords are subordinate to the original harmonization of the theme; that is, all inversions and chord positions can and should be applied so that the harmonic content of the theme is clear. It is also possible to use all the resources for reharmonizing the theme, and, in this case, the coherence in the construction of these chords will be subordinate to the new chord grid. The selection of notes to be used in the elaboration of the chord melody should always be made considering the limits of applicability of the extensions. It is important to have clarity about the quality of each chord in the harmonic progression so that one can know what type of complementary interval should be used. Similarly, it is essential to have criteria and a certain aesthetic rigor regarding the notes to be omitted.

Track 55

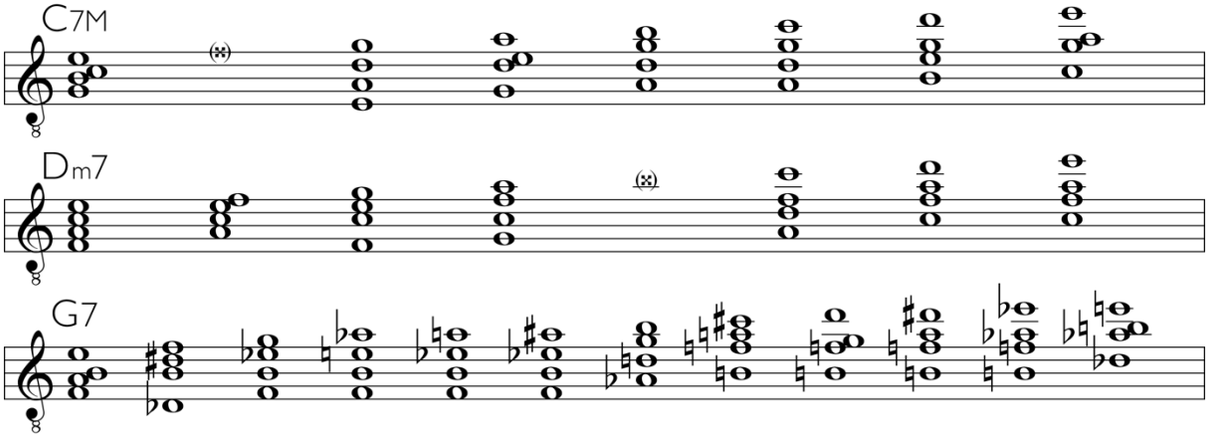


When a melody note cannot be associated with any interval of the chord *(tetrad or extensions)* presented in the original harmonic grid, the correct approach is to leave that note isolated or treat

it as a passing note. In the case of instrumental harmonization, this note will be played in isolation, and in the case of vocal harmonization *(or even when dealing with a wind or string section)*, the chord should be prolonged for the time that this note moves. It is common in chord melody practice to omit the bass note, assuming that it should be played by a bass player.

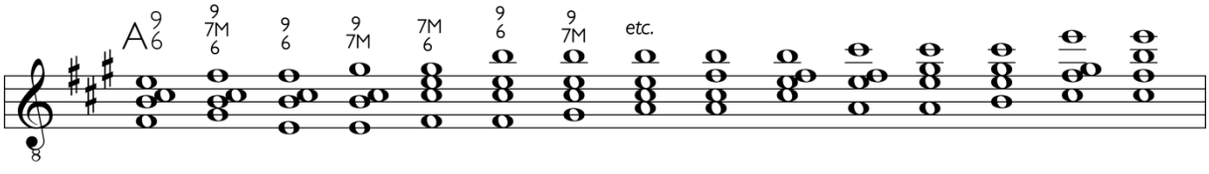
See, in the following example, the different possibilities for assembling chords in a complete cadence in C major with the bass notes omitted. Note that the highest note of each chord structure is always located on the first string of the guitar, which, however, should not be a rule. Because the bass is left free, it is advisable not to go too low with the lowest note of the chords so as not to create conflict with the actual bass note. When this is the case, it is best to opt for three-part harmony. Within the context of harmony voices, the notes on the fifth and sixth strings of the guitar belong to the bass, and when used in structuring the harmonic section, attention is necessary *(review 'Chord Families' and 'Harmonic Complements' – volume 1)*.

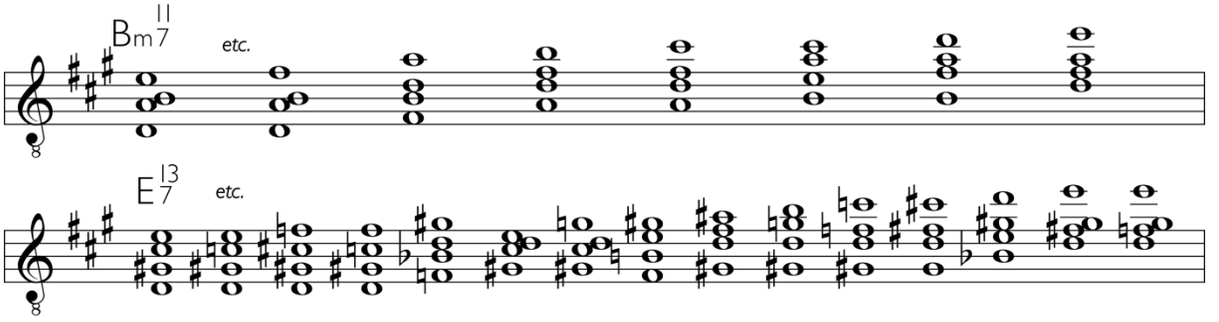
Example 1



Compare this to the possibilities of structuring the chord melody in a complete A major cadence.

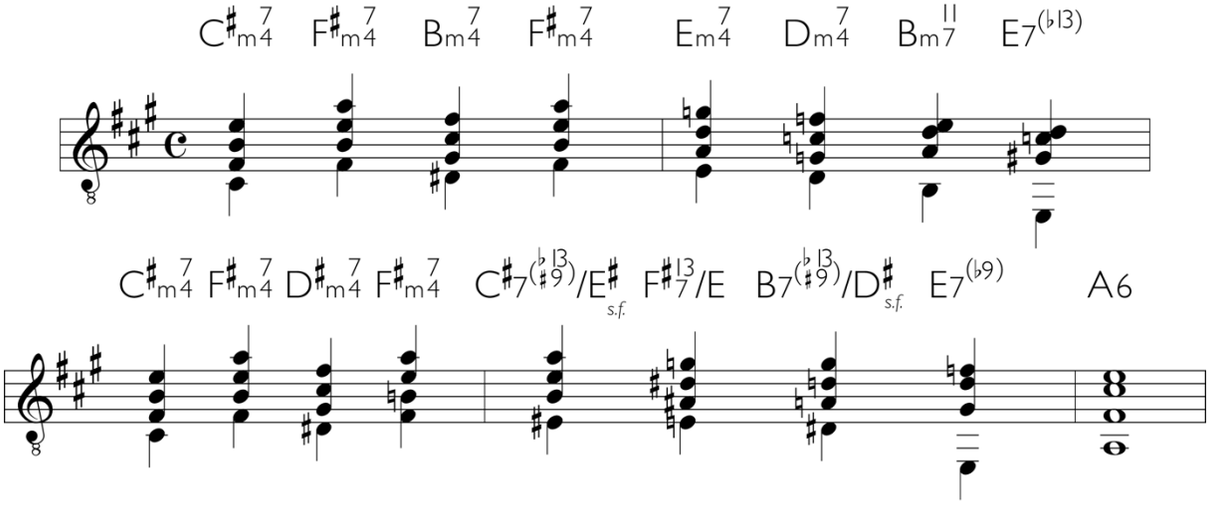
Example 2



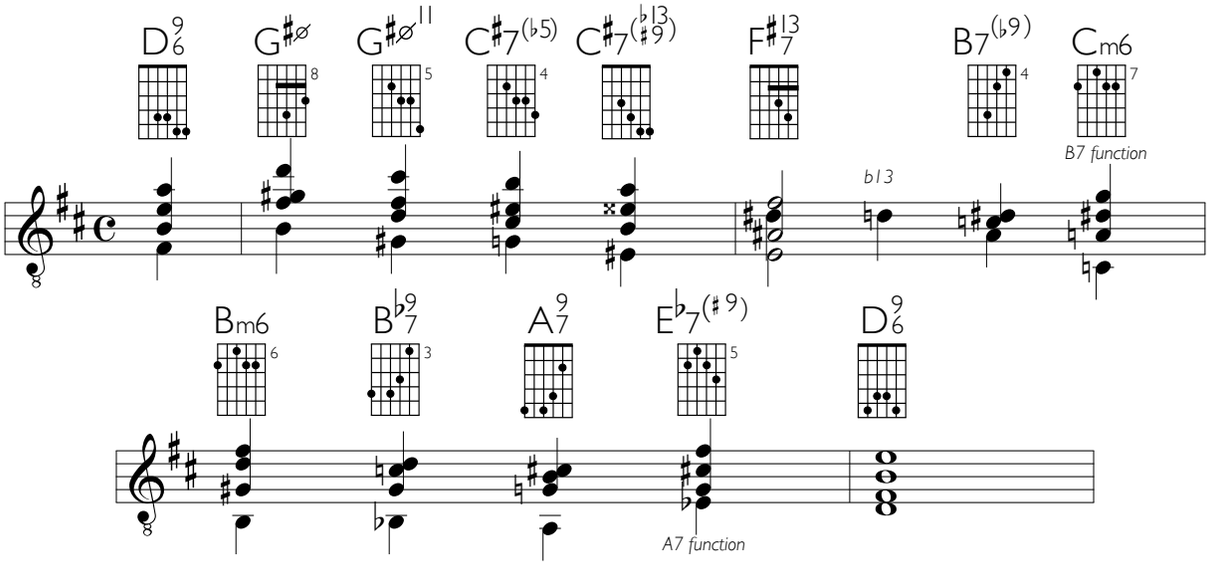


Examples of harmonization with chords in fourths:

Track 56

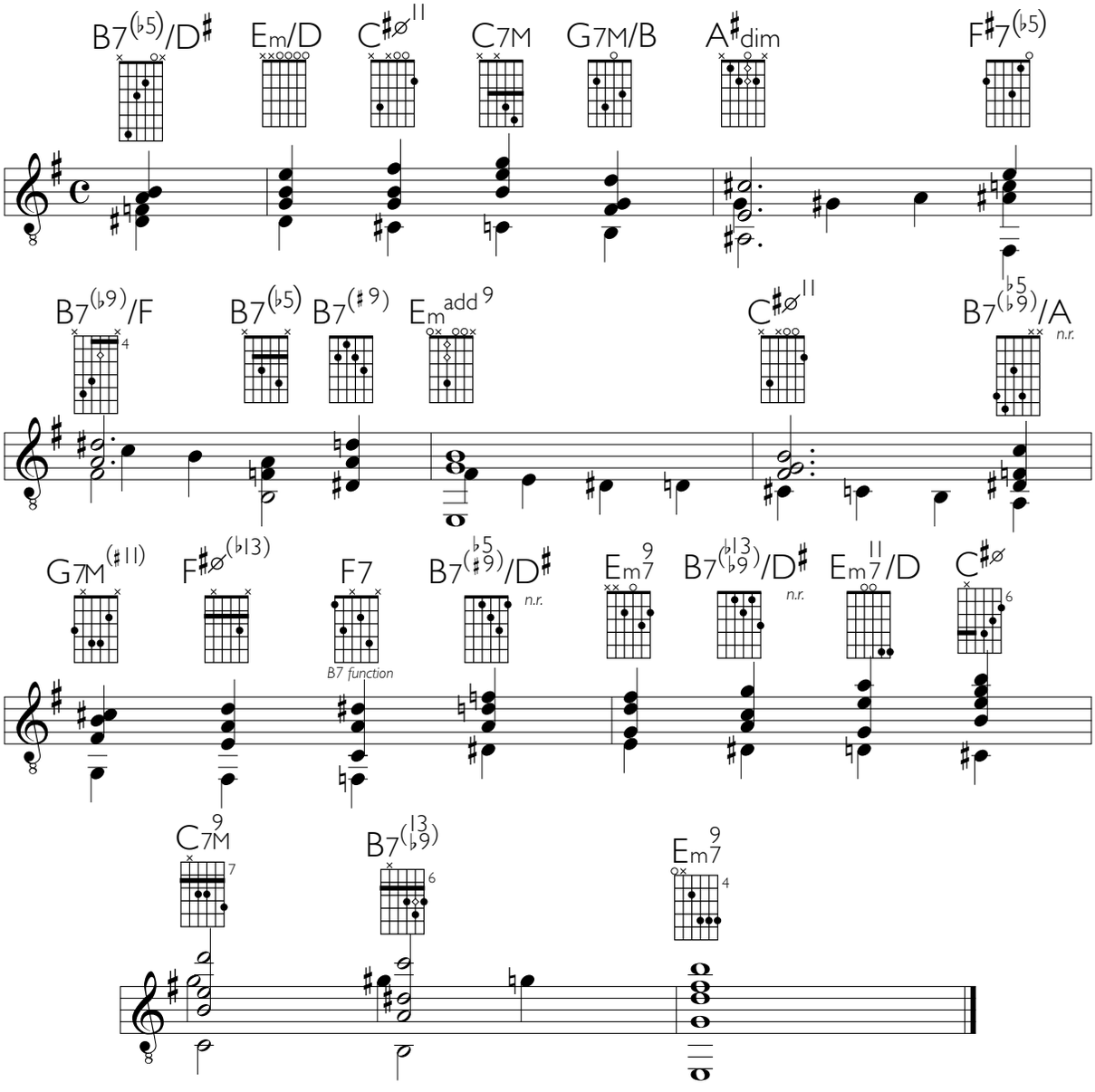


Track 57



Next, an example of a four-voice chord melody in a minor key. Notice how the notes are arranged to maintain a well-balanced structure, aided by counterpoint lines.

Track 58



Exercises:

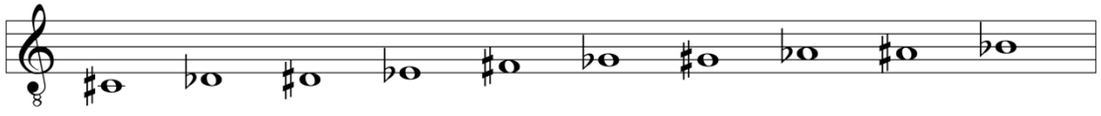
Develop three- and four-part voice examples based on standard melodies.

Modulation

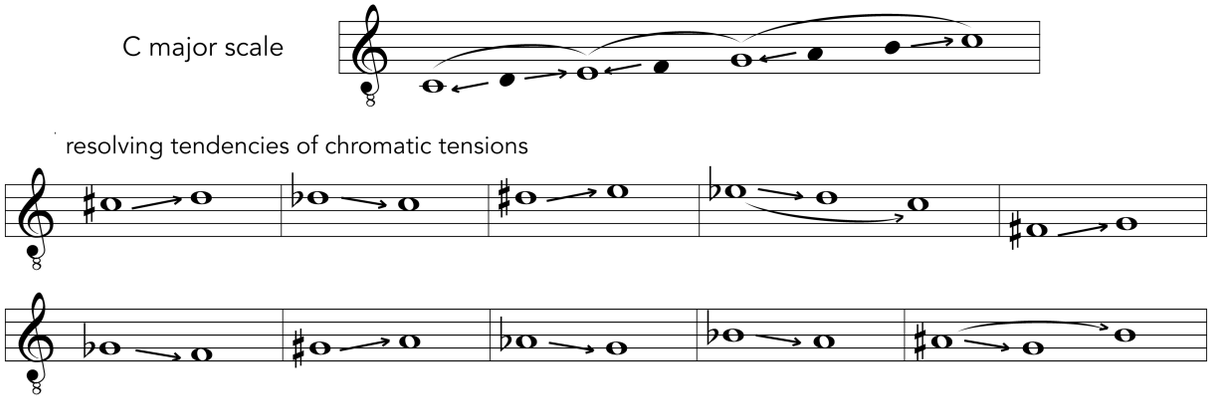
Modulation is the transformation in the hierarchical relationship between the notes of the chromatic scale in tonal procedures. Every musical composition that follows tonal patterns, whether a simple binary song or a large-scale work, has the tonic triad as its sovereign chord, from which we start and to which we always return. The tonic triad constitutes the main pole of attraction towards which the other notes of the diatonic and chromatic scales are directed and represents the main element in the tonal unity of a musical composition.

Modulation is the process of breaking with the centralism exerted by the tonic. The search for new tonal centers, through the redirection of the notes of the chromatic scale, causes the initially established intervallic relationships to be altered. In changes of tonality, the resolving tendency of each note changes, and the functional quality of the chords, consequently, also changes.

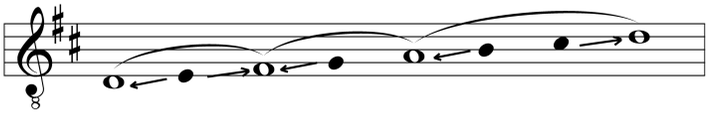
See the chromatic tensions in the key of C major:



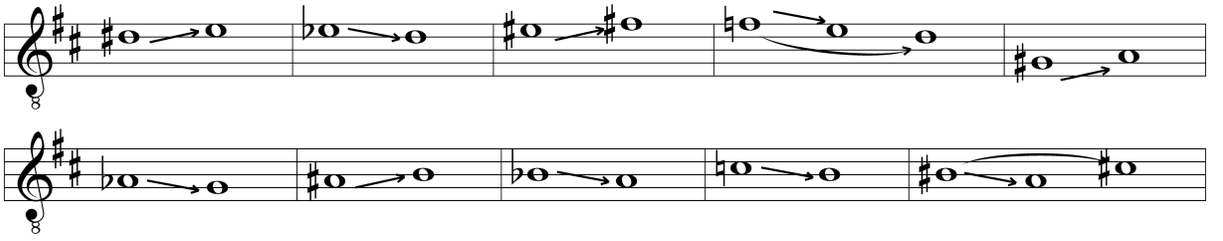
Next, see how the resolving tendencies of these chromatic notes change within different tonalities. Note that when the tonality changes, the relationship between the notes also changes. The resolving tendencies of chromatic tensions form a fundamental aspect for a profound understanding of the modulation process.



D major scale

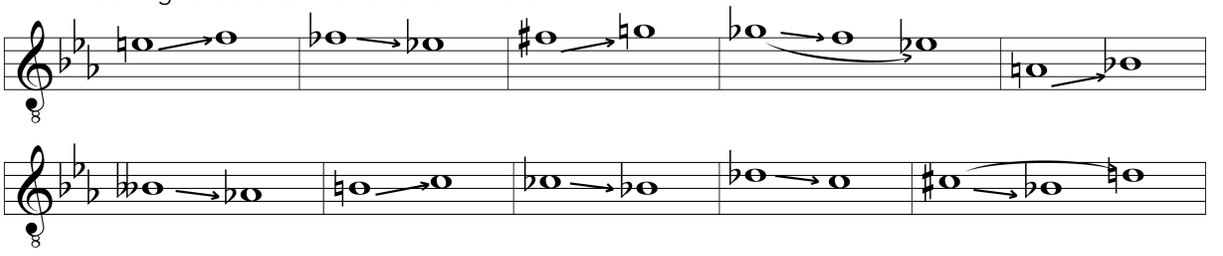


resolving tendencies of chromatic tensions

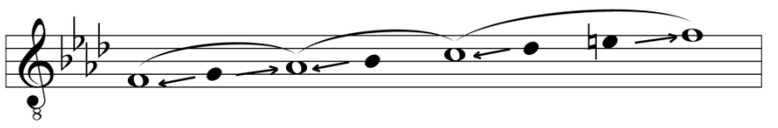


E flat major scale

resolving tendencies of chromatic tensions

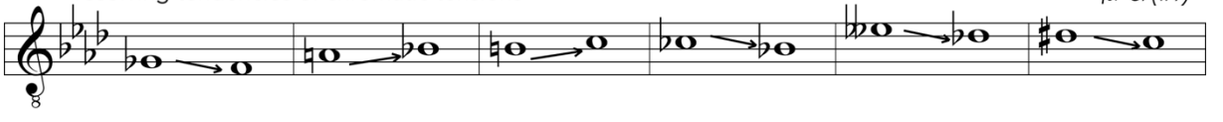


F harmonic minor



resolving tendencies of chromatic tensions

for C7(#9)



Note:

The tonal unity of a musical work was a consensus during a long period of European music, since the establishment of the Tonal System in the 16th century to the beginning of the 20th century. Even Richard Wagner and his chromatic complexity at the end of the 19th century still maintained a clear tonal process, respecting the traditional aesthetic code of returning to the initial tonality and maintaining tonal unity. Gustav Mahler is a good example of how this code was abandoned, with the use of what we now call 'progressive tonality,' which consists of changing the tonal plane from the beginning to the end of a musical composition. We can see, in several of Mahler's symphonies, that the initial key is not the same as the final one. In

some of them, the proximity between the keys is maintained, since the modulations do not exceed the limits of the so-called 'neighboring keys.' This is the case with Symphony No. 2 (beginning in C minor, ending in E-flat major – modulation to the III of the main scale), Symphony No. 4 (beginning in G major, ending in E major – modulation to the VI of the main scale), or Symphony No. 7 (beginning in E minor, ending in C major – modulation to the VI of the main scale). However, Mahler went beyond this level and, in some of his symphonies, the distance between the initial and final key of the work is quite significant. Symphony No. 5, which begins in C-sharp minor, ends in D major. And Symphony No. 9, which begins in D major, concludes in D-flat major.

Tonal structures are always established from the main scales, which are basically divided into two types: major (major and harmonic major) and minor (harmonic minor, melodic minor, and natural minor). We also know that these scales can be played in 12 different situations, where each note will represent the tonic of a new scale. This is without considering the enharmonic possibilities that the tonic may present (for example, C sharp major and D flat major). If this is the case, we will have 24 different scale possibilities, 12 major and 12 minor, and consequently, 24 different tonalities. This practice, however, only became possible after the implementation of the tempered system.

The tempered system was the option found to overcome the limitations presented by the Pythagorean system. The physical division of the octave, based on natural harmonics, results in a restricted musical process, since instruments with fixed tuning, tuned according to this basis, only allow musical practice in nearby keys. A keyboard, for example, tuned according to the Pythagorean principle, may sound perfectly in tune in a key like C major and in keys close to it. However, if on that same keyboard we want to play a musical piece in B major or G-flat major, the result will be quite unpleasant. The temperament of the scale, therefore, corrects these distortions, detuning some notes in favor of overall balance. In this tuning system, only the octaves remain perfectly just and equal. Although the intervals of fifths and fourths in the tempered scale are not acoustically perfect, as happens in the Pythagorean system, the resulting new intervals are not so different. The fifths are slightly shortened in favor of the thirds. This concept of tuning, which had been experimented with by some researchers and theorists, was properly established in 1691 by Andreas Werkmeister (1645-1706). Andreas Werkmeister was a German organist,

composer, and theorist who, through his research, undeniably helped to change the landscape of European tonal music.

Johann Sebastian Bach was quite familiar with Werkmeister's writings, and it was out of complete sympathy and belief in his concepts that he decided to organize the most original and significant work on tonalities written up to that time: The Well-Tempered Clavier.[1] Aside from its undeniable artistic quality, the Well-Tempered Clavier was also produced with a theoretical purpose: to prove that this good temperament of the scale made possible the indiscriminate approach to all major and minor tonalities. The work was written, in Bach's own modest words, "for the use and benefit of young musicians seeking to learn, as well as for the entertainment of experienced musicians." The Well-Tempered Clavier addresses all possible major and minor tonalities through a series of preludes and fugues. This treatise was initially published in manuscript form, as its first printed edition only appeared in 1801. It became a well-known work among musicians of the time, but after J.S. Bach's death, the work fell into complete oblivion. The contrapuntal style it presented became outdated, according to the new aesthetic choices that followed. European music experienced a period in which musical production was far from reaching the depth and harmonic richness seen in the works of this great German master. It took a while before Mozart, and his successors, revived the richness of Bach's chromatic process and brought again to light this remarkable work that is the Well-Tempered Clavier. Mozart knew it in detail and helped to disseminate this work among new generations of musicians and composers. The Well-Tempered Clavier remains a major musical reference even today.

With the implementation of the tempered system, every tonality became practicable and every modulation feasible. The theoretical foundations presented by Werkmeister, the publication and subsequent dissemination of the content of the two volumes of The Well-Tempered Clavier, as well as several other experiments of a similar nature, opened new horizons for the tonal process to become broad and without the limitations of the previous model.

[1] *A keyboard work initially composed of 24 Preludes and Fugues, written in major and minor keys, first performed in its entirety in 1722. In 1744, a second book was created, simply titled Twenty-Four Preludes and Fugues. Currently, both are known as Books I and II of the Well-Tempered Clavier. For years, it was only disseminated through its manuscript.*

There was also a minor adjustment of details regarding the tempered system, and what prevails to this day is equal temperament. This type of scale temperament consists of redistributing the intervals within the octave in an isochromatic way, that is, making the semitones that compose it exactly equal.

Isochromatic temperament, like the well-tempered system proposed by Werkmeister, was for a long time a rather controversial subject. People continued to lament the fact that fifths and fourths were no longer perfect and natural and that thirds had lost their characteristic brilliance. However, the implementation of isochromatic temperament allowed unrestricted transit through all major and minor keys. All keys came to have the same meaning because, from a structural perspective, major and minor scales acquired the same intervallic configuration. Consequently, the functional relationships generated by the chords derived from them came to have the same weight and value. In a cadence in C major, for example, the progression and resolution of the intervals of the chords occur in the same way as in a cadence in E-flat major, with the same clarity and balance. Or, in a cadence in B minor, the movement of voices in chord progressions has the same effect, balance, and clarity as a similar process in D-flat minor, F minor, and other minor keys.

The limit in the application and use of different tonalities in the same passage or piece of music should always be associated with the pursuit of artistic expression. The variety of tonal planes in the same work does not confer quality and may only represent a pointless exercise in modulation. The change of tonal planes during a composition aims to generate surprise and create more interest in the harmonic development. Certain unexpected harmonic solutions, as well as the exploration of different tonal centers, should be used with considerable discretion. They represent an important tool to achieve greater depth in the musical quality of a work.

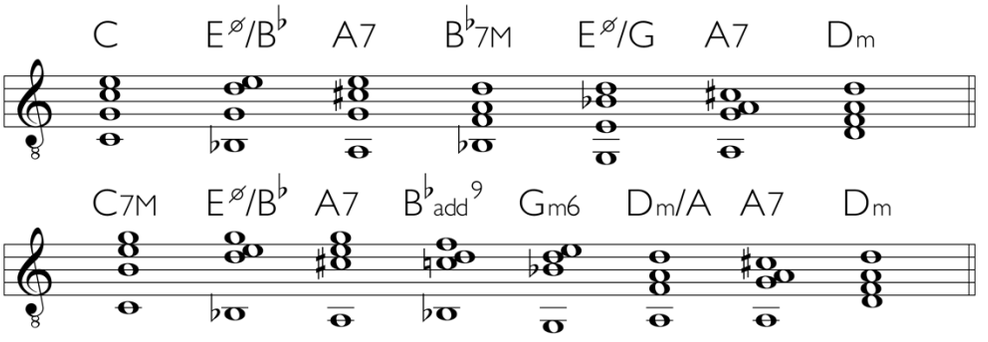
There are several harmonic techniques used in modulation processes. The simplest are those performed on degrees of the scale itself, called modulation to neighboring keys, and are achieved through alterations of secondary dominants. We know that secondary dominants form cadences that lead harmonic progressions to a temporary rest on the degrees of the main scale. When this

type of cadence is repeated during the same passage, modulation occurs.[1] Modulations to degrees of the same scale are treated as nearby modulations.

1. **Modulation to the degrees of the C major scale** *(neighboring keys)*

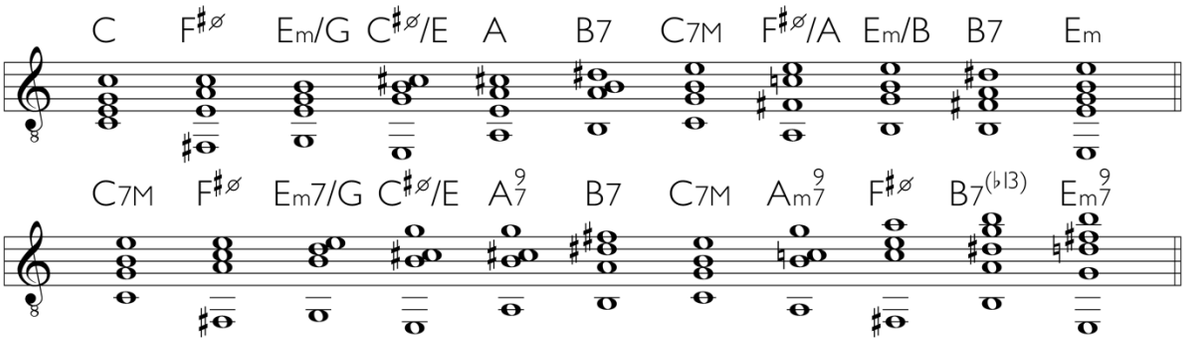
a. **Modulation to the II:**

C major to D minor



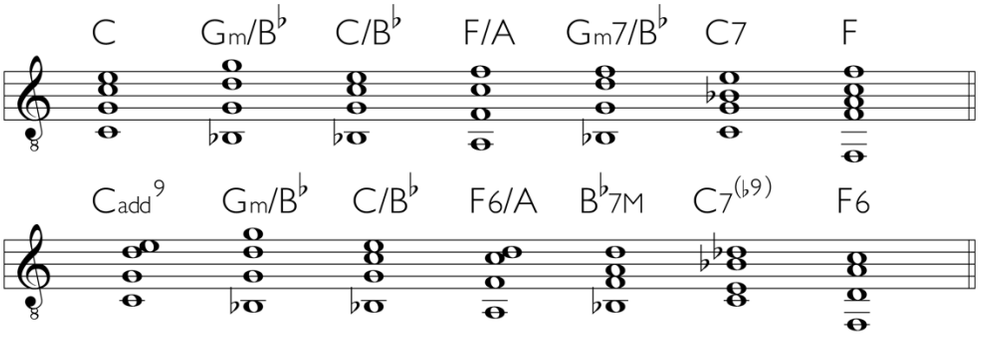
b. **Modulation to the III:**

C major to E minor



c. **Modulation to the IV:**

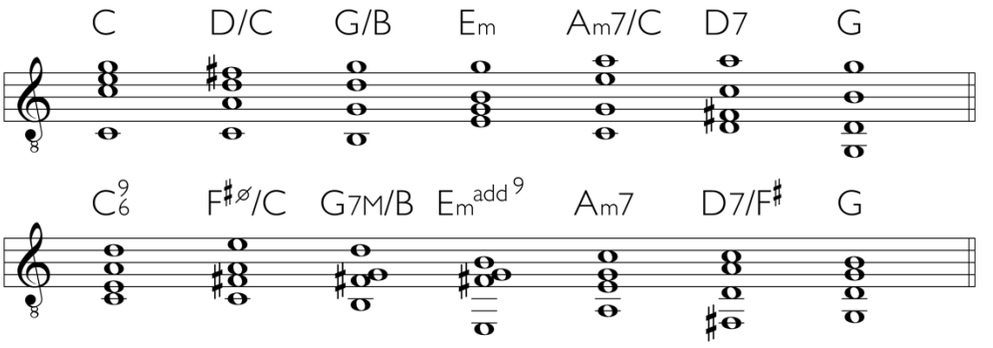
C major to F major



[1] *In these cases, there is a pointless discussion about where the secondary cadential process ends and the modulation begins. What really matters is understanding the effect that these deviations from the tonic have, whether from a harmonic or aesthetic point of view.*

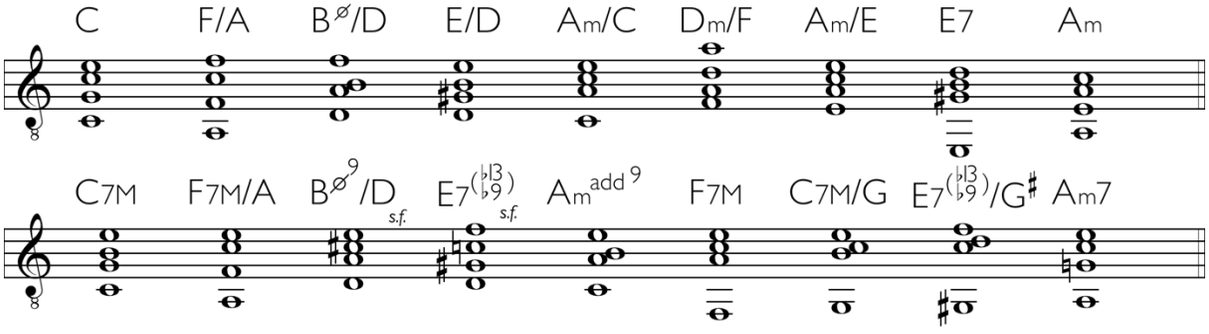
d. **Modulation to the V:**

C major to G major



e. **Modulation to the VI:**

C major to A minor

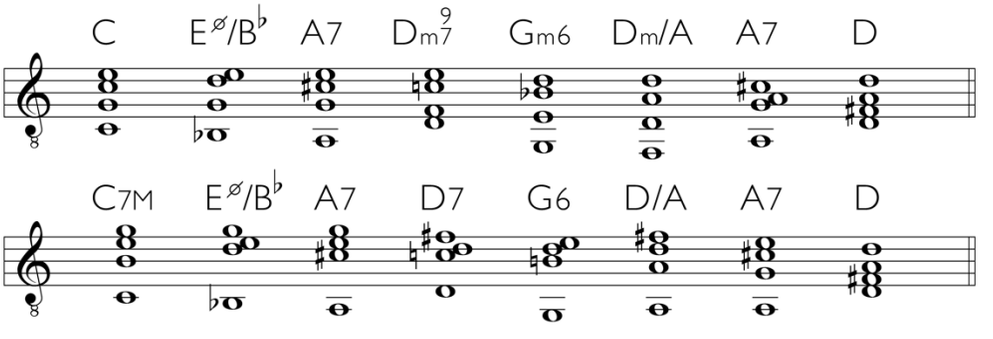


2. Modulation with Picardy third cadence

Picardy third cadence modulations are those made by applying the secondary dominants of the minor degrees, which resolve to major homonyms. This is considered a close modulation due to the simplicity in resolving the seventh interval of the dominant to perform it.

a. **Modulation to the II with Picardy cadence:**[1]

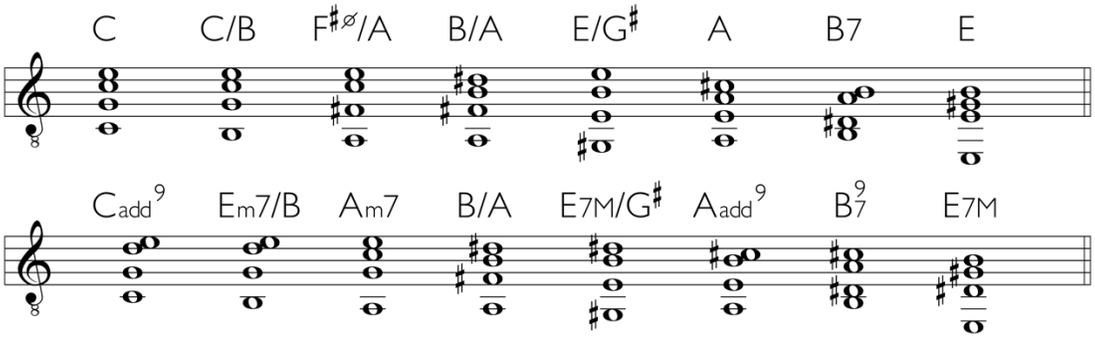
C major to D major



[1] *Although the number of key changes is greater than that predicted for near modulations according to classical theory, Picardy third modulations are also near modulations.*

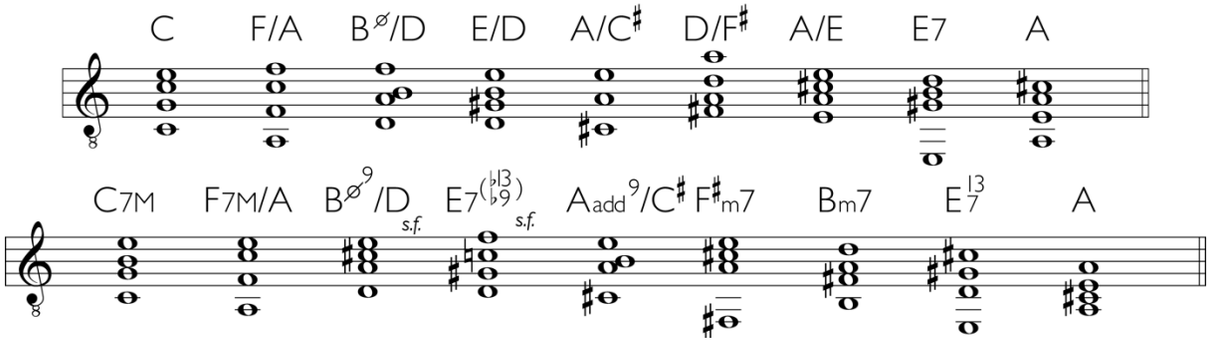
b. **Modulation to the III with Picardy cadence:**

C major to E major

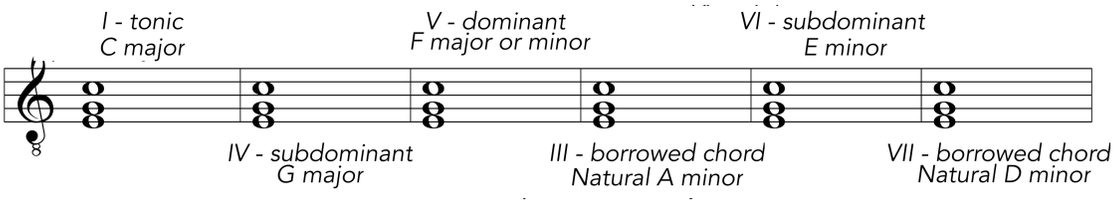


c. **Modulation to the III with Picardy cadence:**

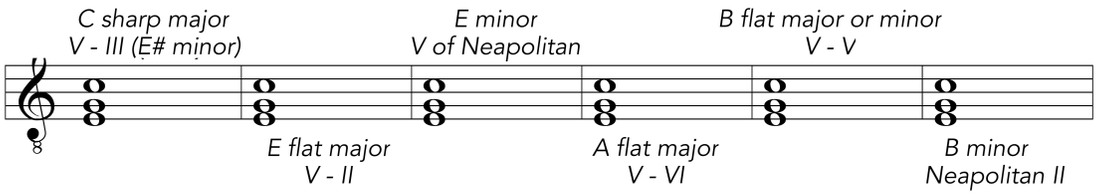
C major to A major



There are other types of modulation used for distant keys, those that differ by several sharps or flats in the key signature, or even those that are further removed from the original key in the circle of fifths and fourths. For this type of modulation to be coherent and fluent, it is necessary, above all, to clearly establish the path that the chromatic alterations resulting from the process should follow. Modulations made in this way are called modulations with preparation and are always made using a common chord called a **pivot chord**. The pivot chord is a chord with different functions, common to numerous keys. See, for example, how a C major triad can acquire, in addition to its tonic function in C major, a series of different functional meanings through its reinterpretation:



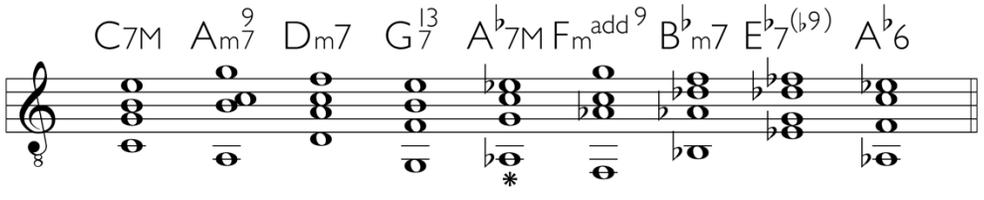
Or even:



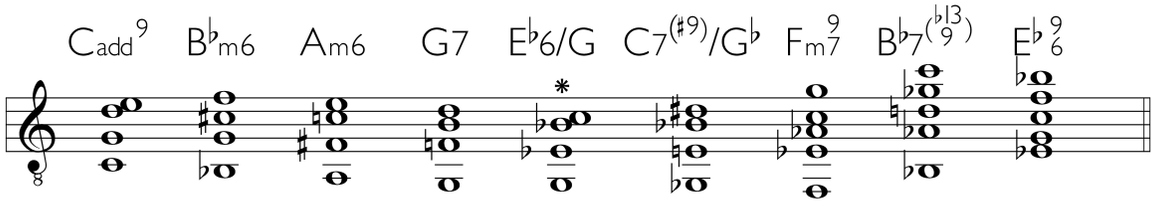
3. Modulation with exceptional resolutions

We had already seen different possibilities for chord substitution, deceptive cadences, and other ways to create surprises in harmonic progressions. One way for immediate modulation, which happens without preparation, is the one done from the exceptional resolution of the dominant seventh chords. The functional transformation of the last note of a melody can push the harmonic process to distant keys from the initial. These exceptional resolutions of the dominant seventh chord also help as an element to improve the modulation process. See some examples of transformation using the note C:

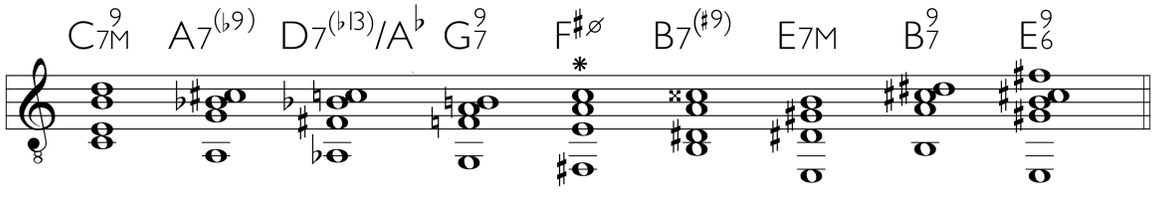
a) Using the note C as the third of a major chord.



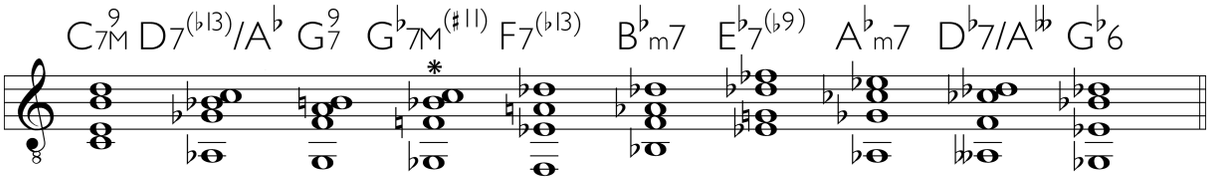
b) Using the note C as the sixth of a major chord.



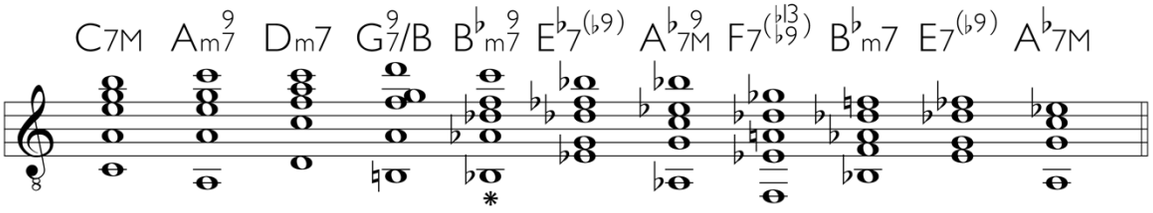
c) Using the note C as the diminished fifth of a half-diminished chord.



d) Using the note C as the #11 of a major chord.



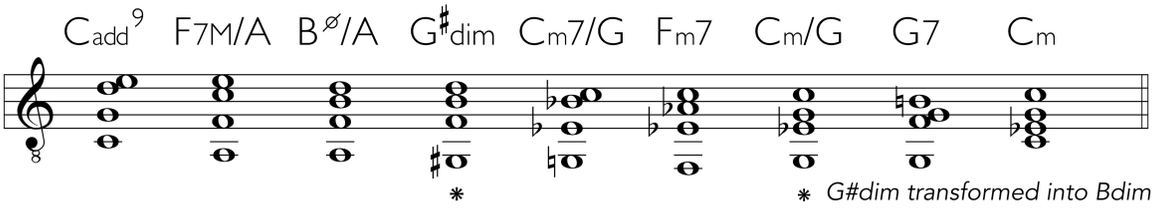
e) Using the note C as the ninth of a minor chord.

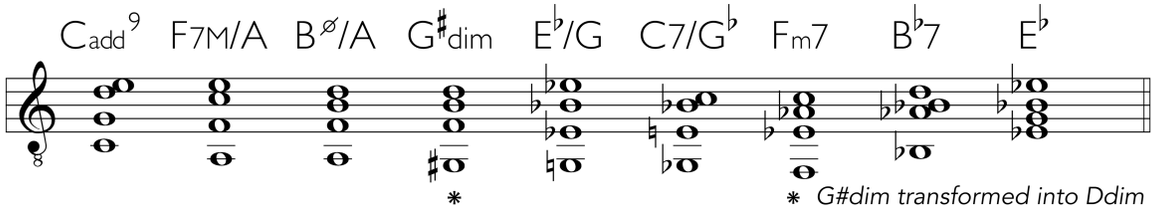


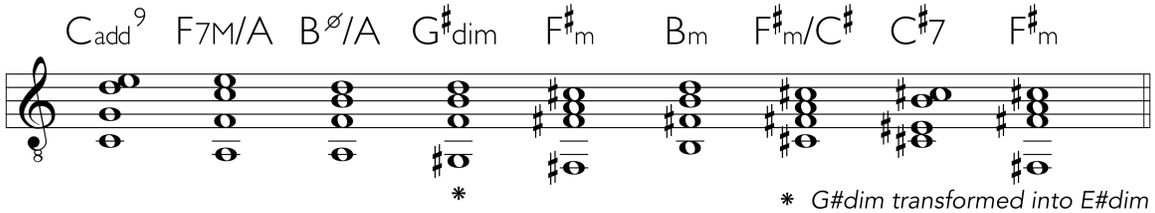
4. Modulation through reinterpretation of chords with two tritones.

As we saw earlier, the diminished chord and the dominant chord with a diminished fifth can have four different resolutions. This is due to the enharmonic transformation of the tritones that form them. We know that each tritone can have two different resolutions, and, in the case of the chord types mentioned above, we can have four different harmonic approaches for them. This can be an effective tool for sudden changes in tonality. Since the chord resolution is done through the enharmonic transformation of its notes, the result of the transformation is always surprising. However, from a theoretical perspective, the voice leading in this process is entirely coherent. See some cases of modulation through resolution by enharmonic transformation of the tritones of dominant diminished chords, non-dominant diminished chords, and dominant chords of the 7(b5) type.

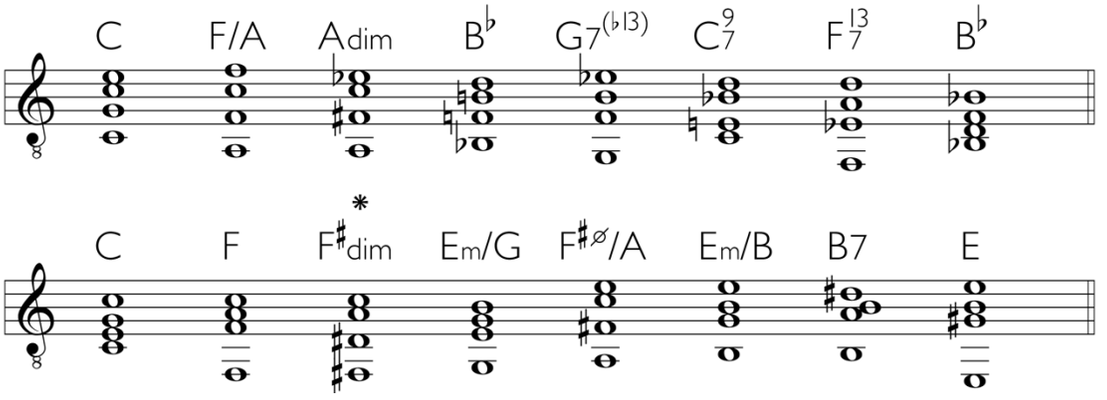
a. Dominant diminished chord:

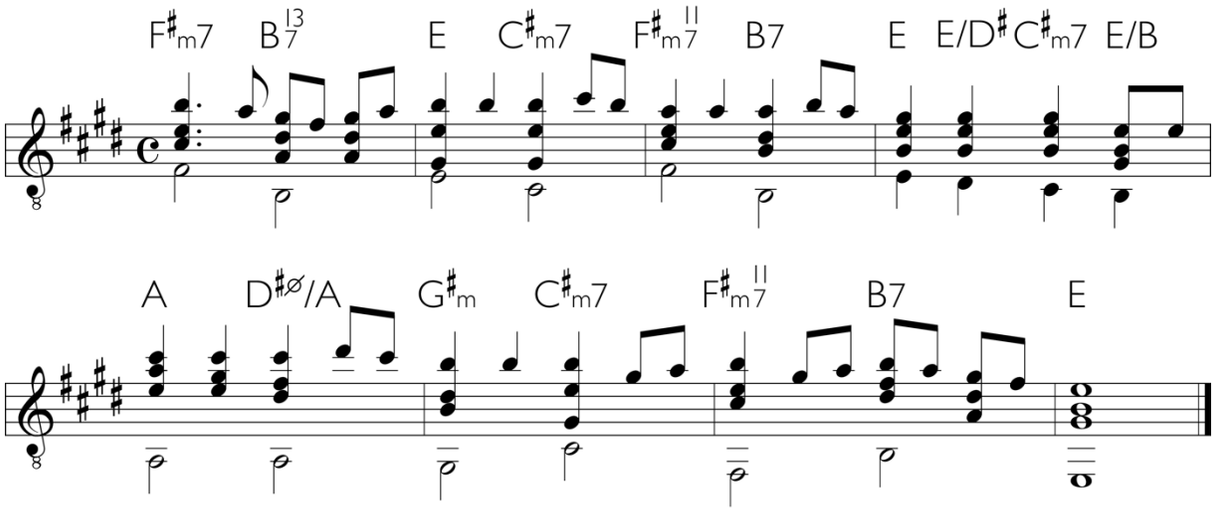




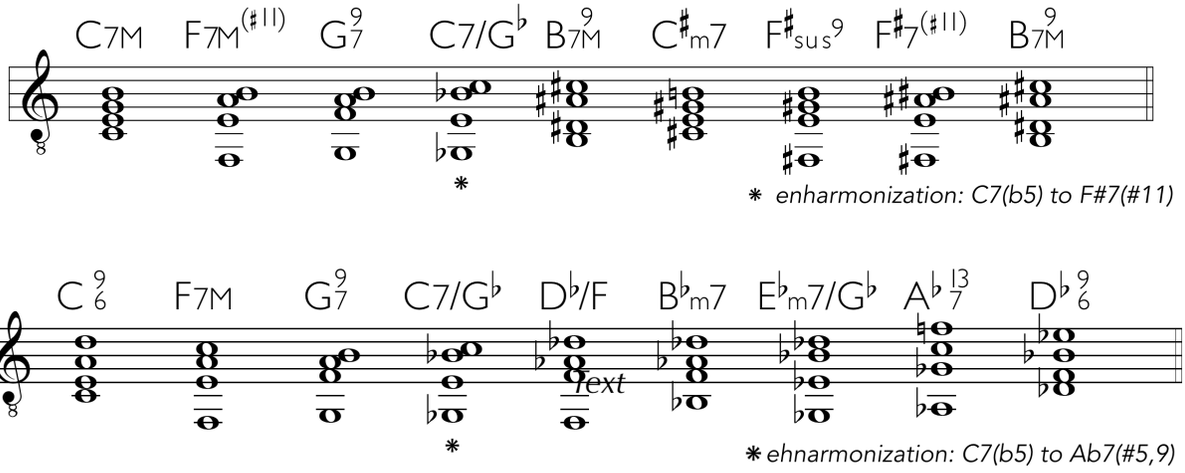


b. Non-dominant diminished *(transformed into dominant)*:





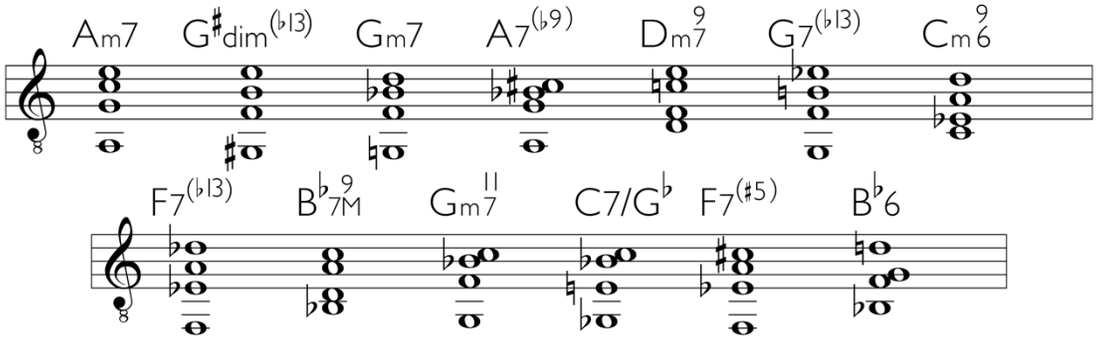
c. 7(b5) dominant chords



Some modulations are direct or without preparation. In these cases, what happens is that at the end of a period there is simply a change of keys. The passage that ends in a certain key gives way to another that begins abruptly in a different tonal center. In this type of modulation, it is very common to change to a new key situated a semitone above the original key.

5. Modulation by Neapolitan cadence

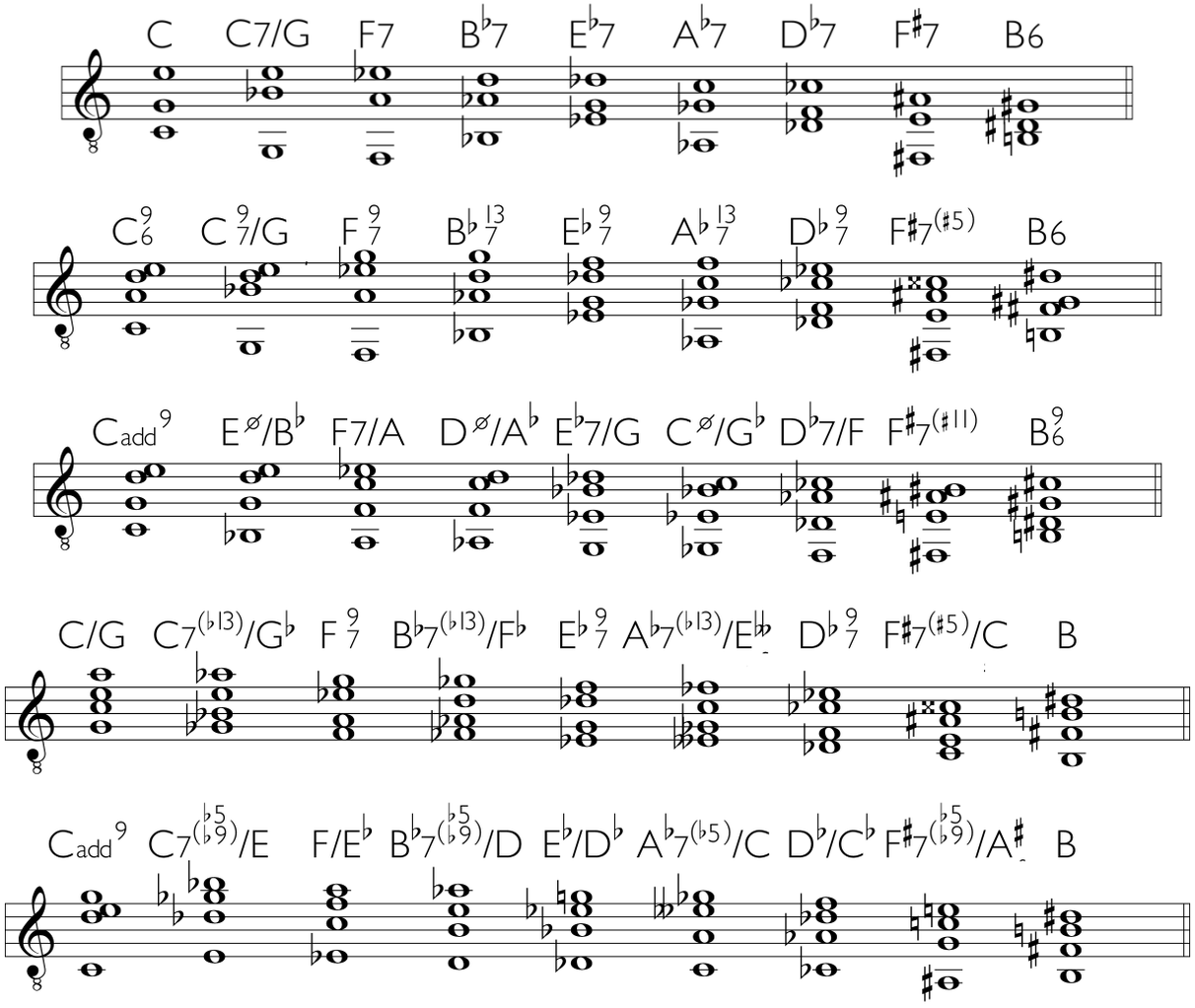
Another type of modulation is achieved by inserting the Neapolitan chord into the cadence. The Neapolitan chord is used as a pivot chord for changing the tonal center.



6. Modulation by harmonic march

Harmonic march modulation consists of connecting a sequence of dominant seventh chords until the desired key is reached. It is considered a weak procedure for modulating to distant keys, but

it is effective when the issue is simply moving away from the original key. The succession of dominant seventh chords is always made with the roots jumping by fourths, starting as secondary dominants until the desired distance from the main key is achieved. Since this type of progression is only made with dominant chords, it is possible to use all kinds of alterations and inversions (altered dominants, subV, and others). See the same harmonic structure repeated five times, so that with each repetition, the dominant seventh chord becomes more complex.



Exercises

1. Create examples with resolving inclinations of the diatonic scale and the remaining chromatic tensions in the following keys:

a. D minor
b. A major
c. G major

d. C minor
e. G minor
f. A flat major
g. B flat major
h. C sharp minor

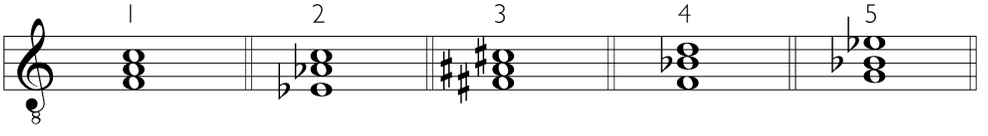
2. Develop modulating harmonic sequences for the degrees (neighboring keys) of the following scales:

a. A major
b. G major
c. C minor
d. A flat major
e. D minor
f. G minor
g. E major

3. Perform modulations with Picardy cadences in the following keys:

a. F major
b. A minor
c. B flat minor
d. E flat major
e. G minor
f. A-flat major

4. Interpret the possibilities of using the following triads as pivot chords:



5. Perform modulating progressions through the exceptional resolution of the dominant seventh chord.

6. Perform modulations through the enharmonic transformation of the dominant diminished chord.

7. Perform modulations through the enharmonic transformation of the non-dominant diminished chord.

8. Perform modulations through the enharmonic transformation of the 7(b5) chords.

Reharmonization

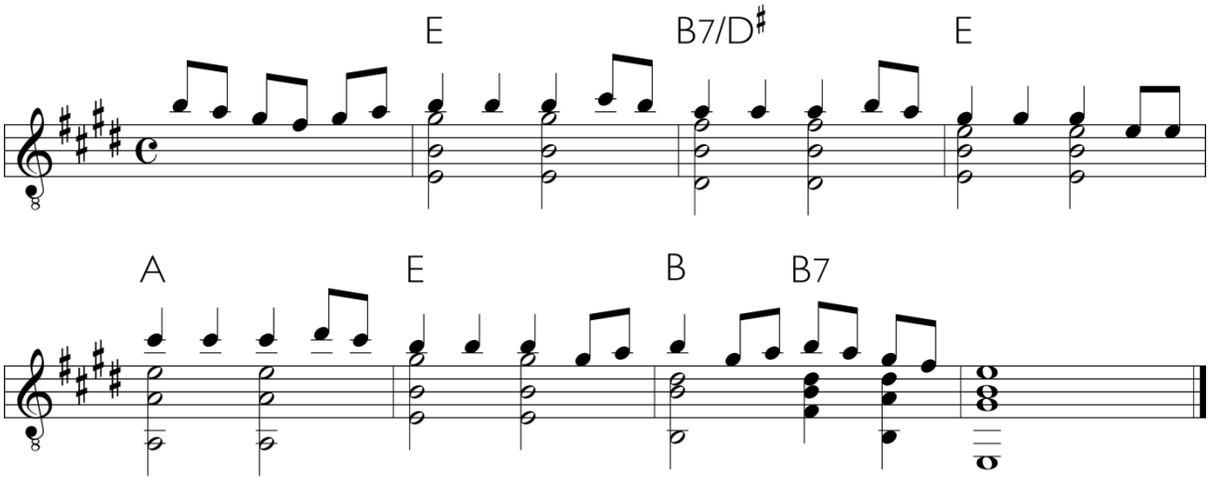
The practice of reharmonization consists of exchanging or replacing chords in themes with an already defined harmonic structure. The theme to be reharmonized is generally a well-established theme whose harmonic content clearly exposes the main functions of its original chords. The reason for choosing a well-established theme is the possibility of causing an even greater surprise effect on the listener, who has the original harmonic reference in their memory. The substitution of chords, or reharmonization makes the harmonic content of a musical theme more elaborate and sophisticated, and this process can consist of changing only one of the chords in the theme or changing all of them completely. The scope of a reharmonization can be diatonic or chromatic and includes the insertion of new chords, increasing the number of chords used. The limit of applicability between these extremes is purely aesthetic, and it is up to the harmonizer to decide between what can be a harmonic enrichment or an exaggeration.

Based on these concepts, we can establish the following methodology for the reharmonization process:

1. Analysis of the original chord functions of the theme.
2. Insertion and substitution of chords from the same diatonic scale from which the theme is constructed.
3. Insertion or substitution of chords through secondary dominants.
4. Use of altered dominants or dominant substitutes.
5. Substitution of the tonic chord, in the final cadence, by a chord with exceptional resolution of the dominant.
6. Substitution of chords by modal borrowings.
7. Free harmonization, independent of the functions of the original chords.

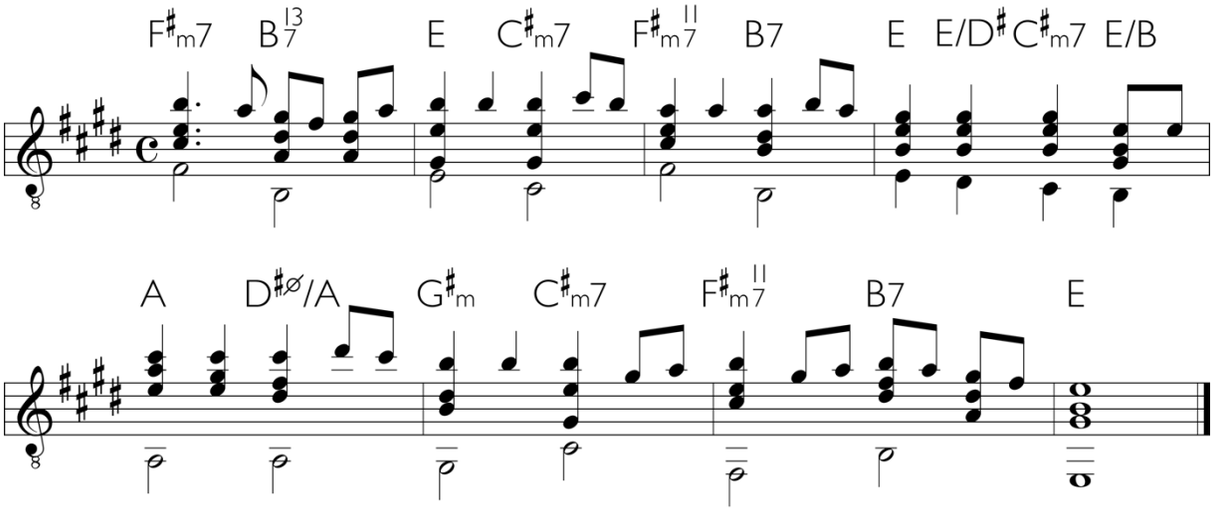
To provide a practical reference for the reharmonization process, let's choose a well-known Brazilian children's song. In the example below, we see this melody harmonized in the simplest way, by applying chords that represent only the three basic functions: tonic, subdominant, and dominant.

Track 59



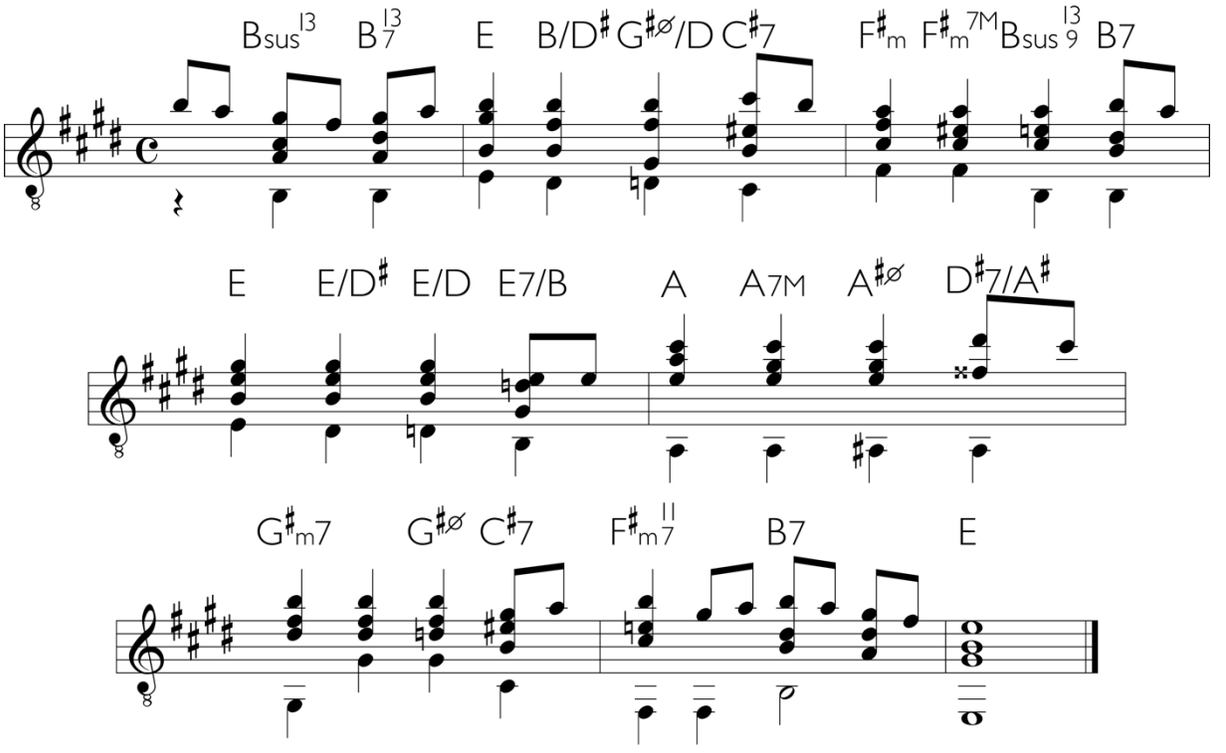
Next, we expand the harmonic variety using the remaining chords of the E major scale. Note the insertion of the II-V cadential pair, right in the first measure. The chosen diatonic chords should remain close to the original functions of the theme, and these expansions or substitutions should initially maintain this relationship.

Track 60



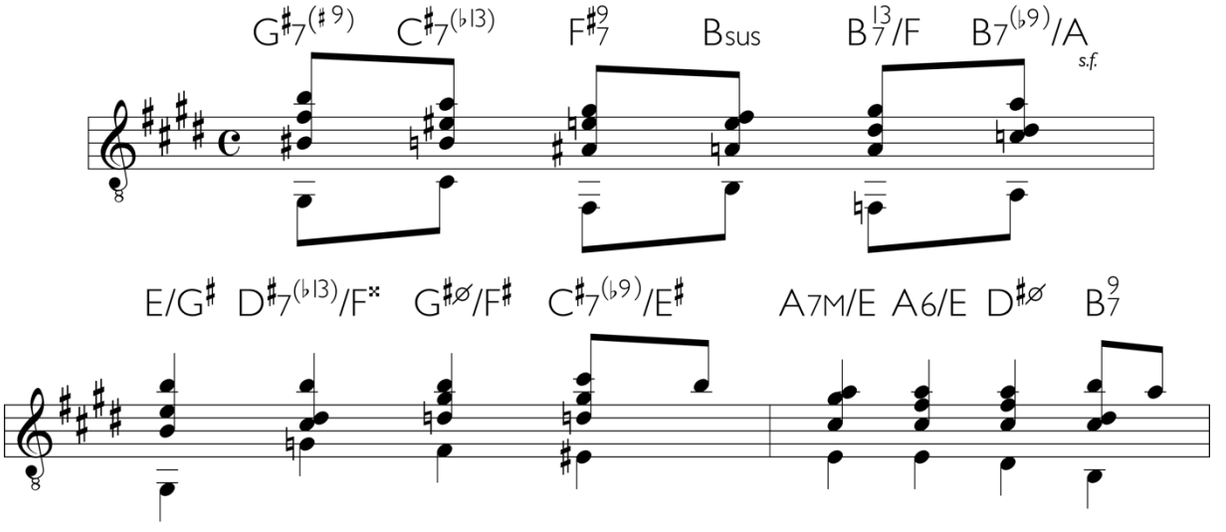
The application of secondary dominants expands the range of chords used in the harmonic grid that supports this melody. In this case, we move from the diatonic process to the chromatic process, with the appearance of some tensions.

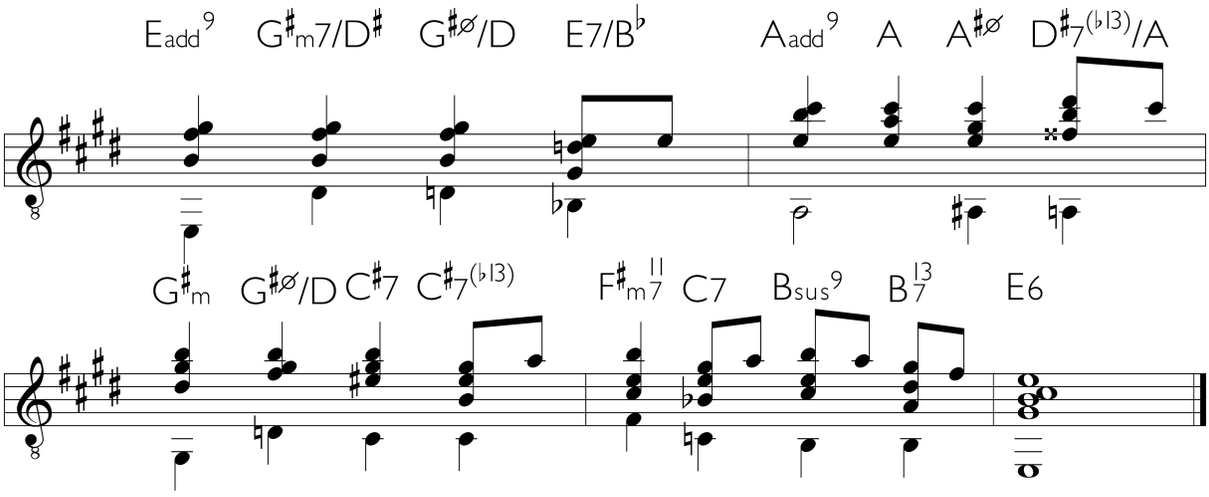
Track 61



Beyond the reharmonization pattern seen in the example above, it's possible to increase the complexity of the selected chords through alterations and inversions of these secondary dominants. See the following example:

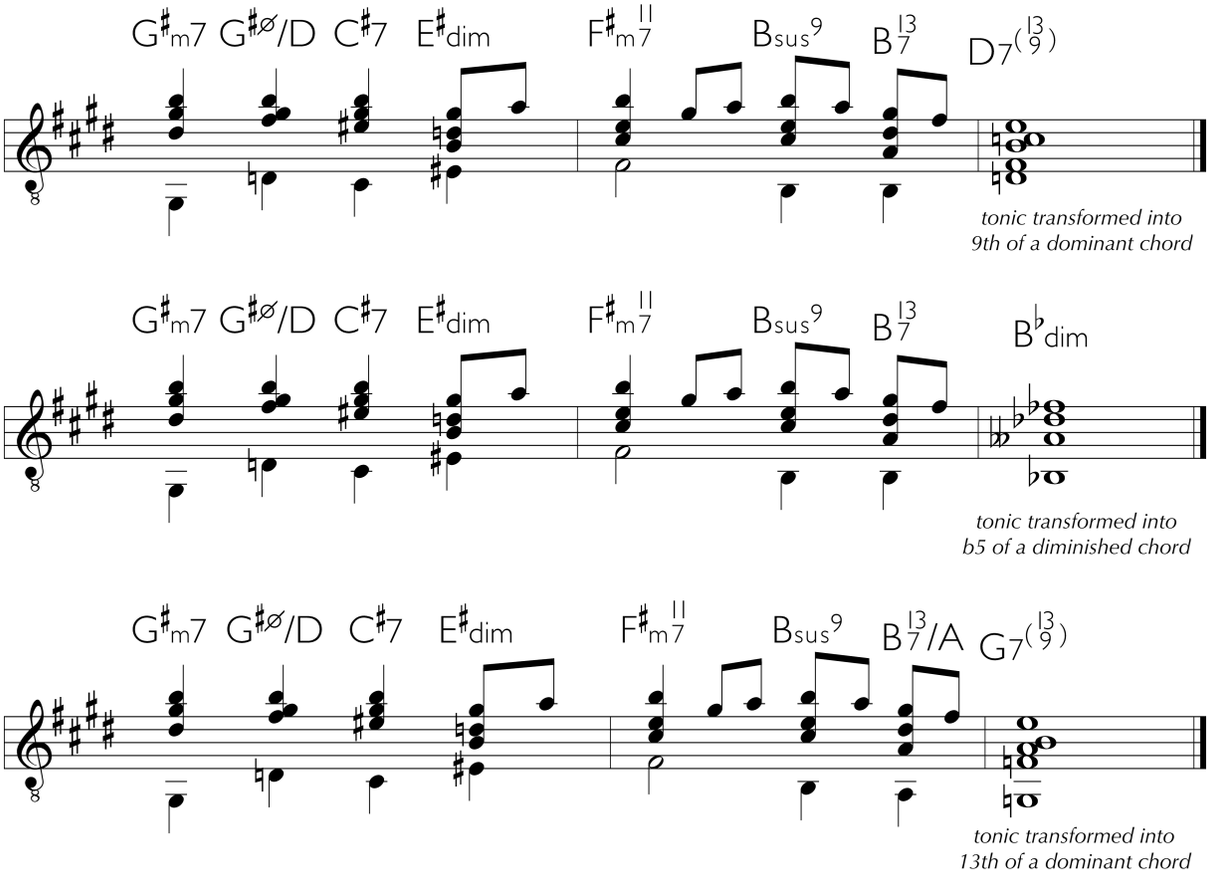
Track 62





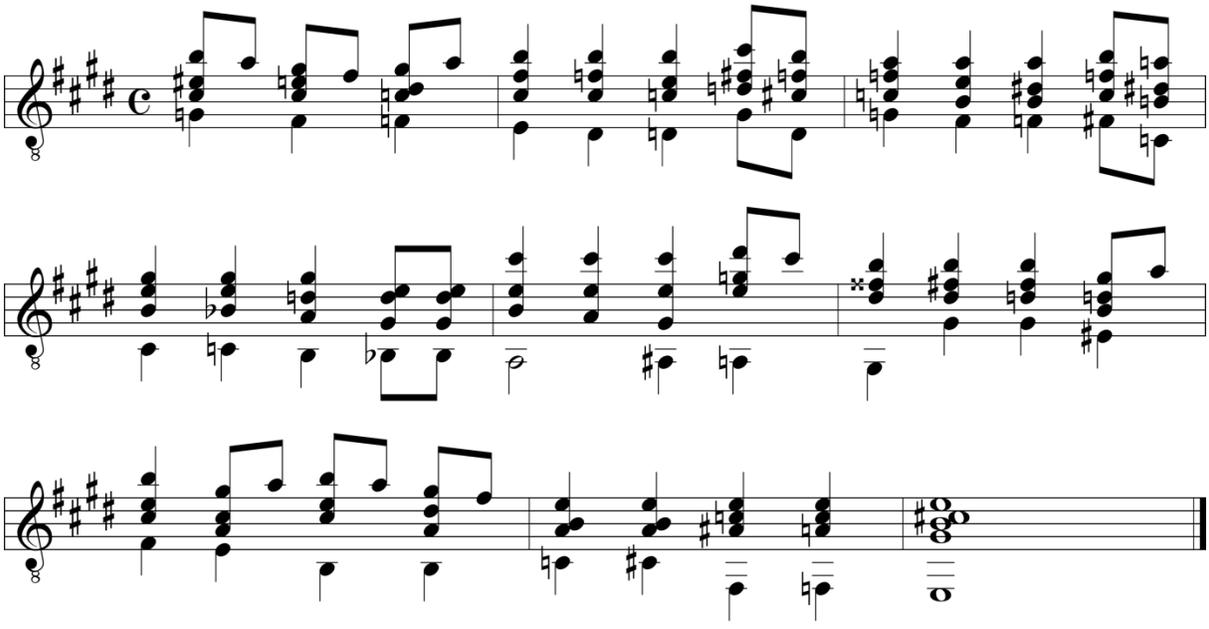
Another highly effective way to substitute chords is through exceptional dominant resolutions. This technique, discussed in the chapter of the same name, involves transforming the last note of the melody into an interval different from the one that note represents in the chord used up to that point. Here are some examples:

Track 63

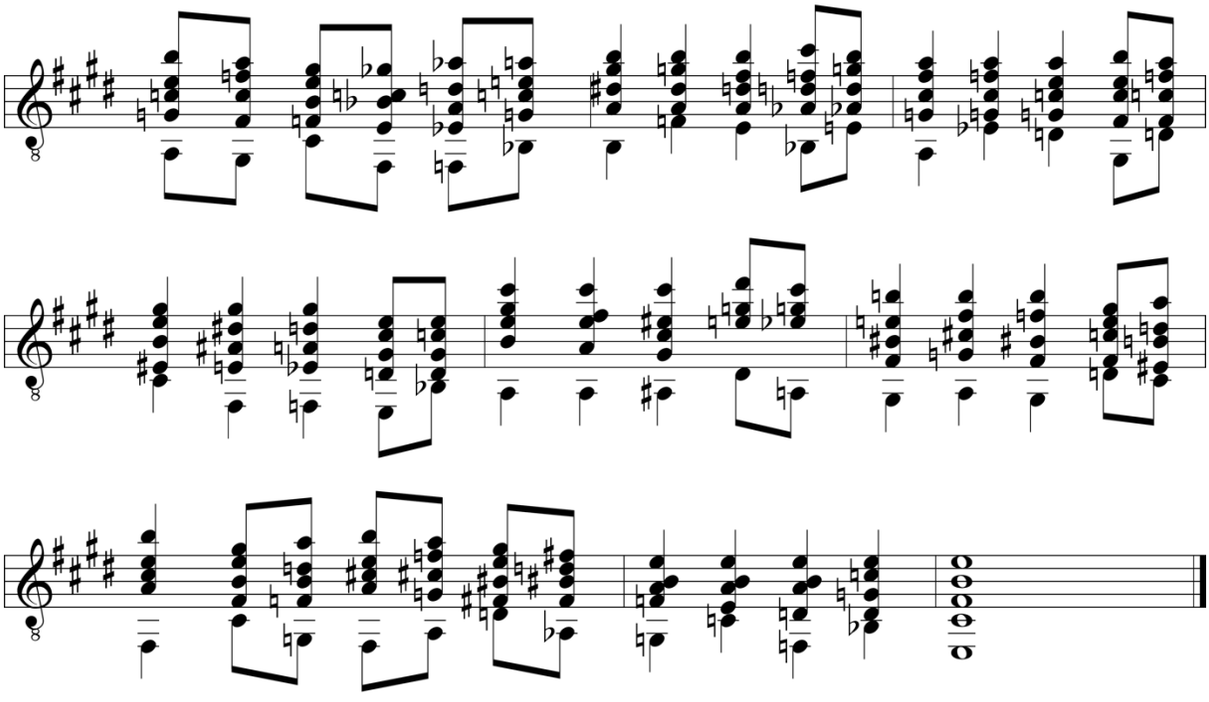


A further step in the reharmonization process is achieved by including some modal borrowing chords, in addition to secondary dominants and exceptional resolutions of the dominant chord. The following passage is not shown in chord symbols so that harmonic analysis can be performed.

Track 64

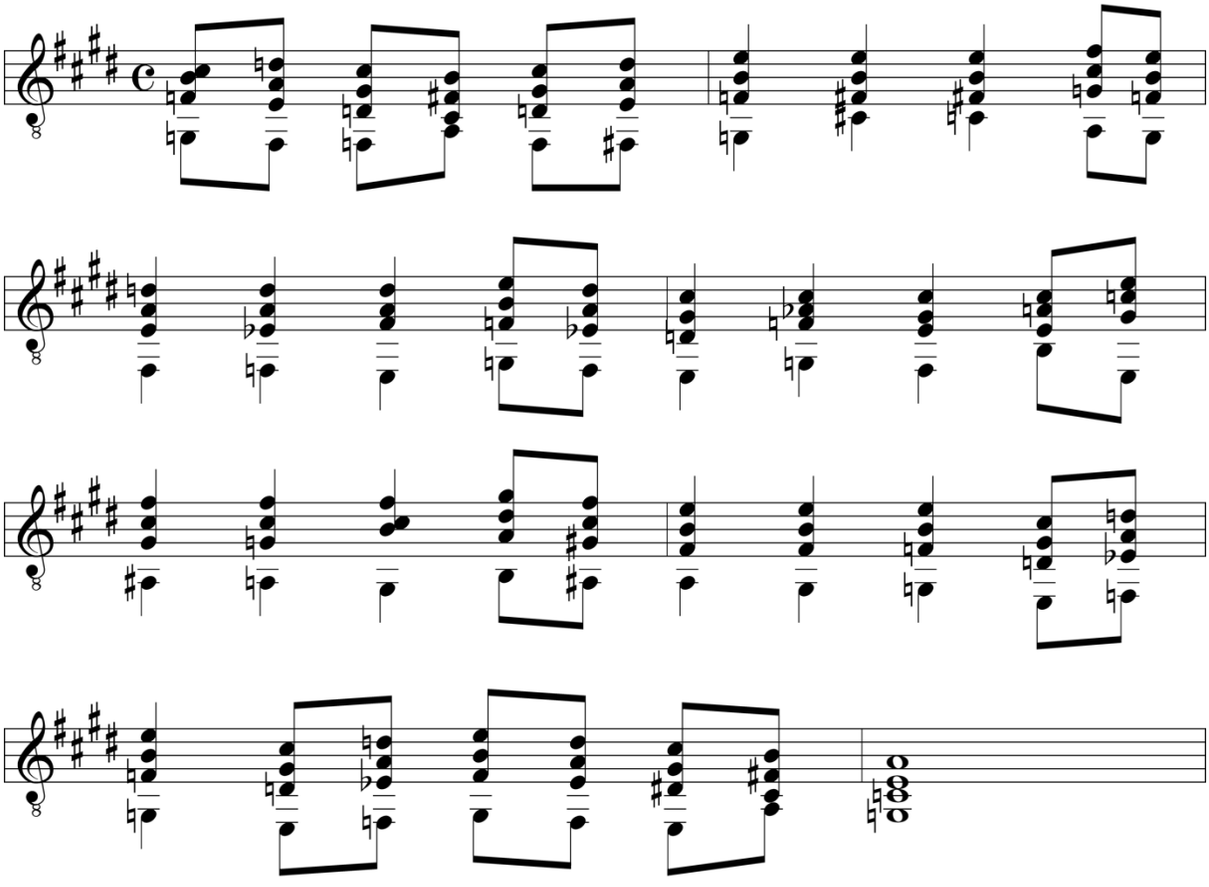


Track 65



In a freer reharmonization, the theme can be treated bitonally: the higher voice in the harmony presents the melody in A major, and the immediately lower voice maintains it in E major. In this case, the harmonic functions become diffuse, and the harmonic progression presents a series of errant chords without a clear function. Note that the main melody, in E major, is in the center of the harmonic progression. It is recommended to sing the main melody, in E major, while the chord sequence is being played. In this way, the effect that this melodic structure represents within the progression will be better understood.

Track 66



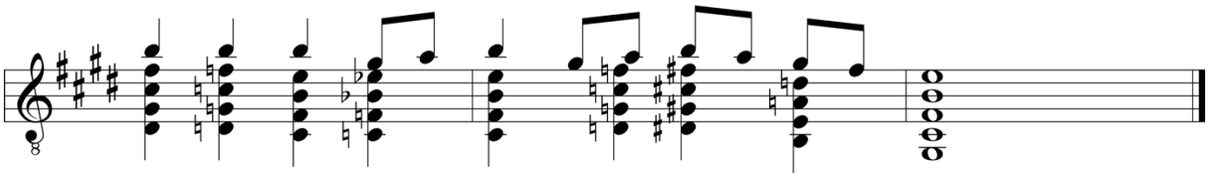
With the example above, a series of possibilities opens for the use of chords in a non-tonal approach, which we will see in the third part of this work. In these cases, the structures will no longer be made by superimposed thirds from diatonic scales but from the stacking of fourths, fifths, or seconds. In 20th-century European music, where the chromatic system began to be used more

freely and independently, several experiments were carried out regarding the structuring of chords. Chords by fourths, by fifths, and by seconds are some of the most established examples of this practice.

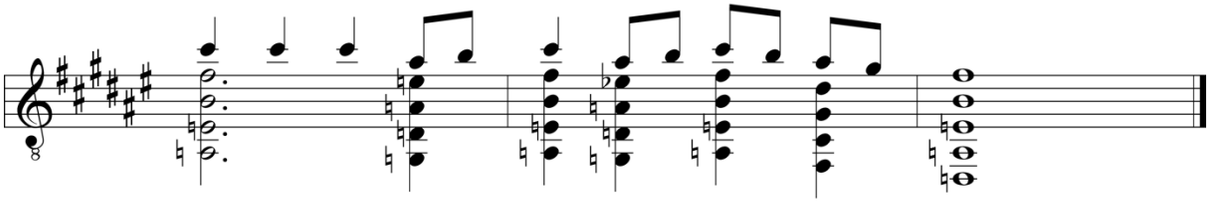
See, as the last example in this volume, some possibilities for applying the techniques of chord formation by fourths, fifths, and seconds, applied to the last phrase of the same melodic theme.

Track 67

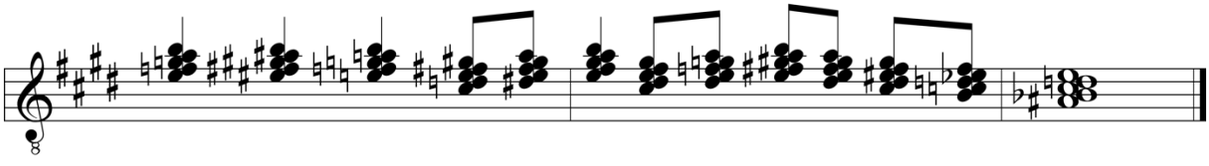
a. Harmonization with quartal chords



b. Harmonization with quintal chords



a. Harmonization with secundal chords



Note:

In reharmonizations made in the same key as the original theme, through secondary dominants or borrowed chords, it is essential to maintain the coherence of the chords in relation to the main melodic line. Every chord applied, which is not located within the diatonic space, must maintain a direct relationship with the notes of the melody to which it is integrated.

Exercise:

1) Reharmonize well-known melodies.

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Tratado de Harmonia - Joaquín Zamacois - Editorial Labor, Barcelona

Other works by Marco Pereira

CDs

Cristal	*O samba da minha terra*	*Valsas Brasileiras*	*Essence*
Folia das Cinco	*Original*	*Bons encontros*	*Stella del Matino*
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Xodós	*Angá*	*Afinidade*	*Dois Destinos*

Books

Brazilian Rhythms	*Valsas Brasileiras (sheet music book)*
Heitor Villa-Lobos, sua obra para violão	*Cristal (sheet music book)*
Seven Strings, technique and style	*Harmony Books (3 volumes)*

Sheet music

Guitar solo:
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Pra Hermeto
Baião Cansado
O choro de Juliana
Pixula, Chamego, Sarará e Micuim
Sambadalu
Nostálgicas (5 peças)
Chama-me!
Tio Boros
Tempo de Futebol
Five Pop Tunes for solo guitar
Suíte Negra
Perequetés (4 peças)
Choros de Byron
3 Choros

Two guitars:
Círculo das cordas,
Pererê, Repentes, Sambadalu,
Dona Lu, Paranoá, Balada para Tony,
Um café, compadre?
Ekatê
Paz
L i s
Bate-coxa

Guitar and Flute:
Seu Tonico na Ladeira
Carioca

Guitar and Harp:
Fantasia Concertante

Guitar and Mandolin:
Luz das Cordas
Seu Tonico na Ladeira
Paranoá

Four guitars:
Dança dos quatro ventos
Açaí com Tapioca
Sambadalu
Coroado

Bass and Piano:
Balada para Tony

Guitar, Flute and Violoncello:
L I S

Guitar, mandolin and strings:
Luz das Cordas

Guitar and orchestra:
Círculo dos Amantes
Concerto Calunga
Lendas Amazônicas

Chamber quintet
(flauta, clarinete, vibrafone, violão e cello)
Roda das Baianas

Guitar and Strings Orchestra:
Serenata
Brincantes

Audio recordings:

Recording engineer: João Ferraz

Mixing and mastering: João Ferraz and Marco Pereira

Guitar used in the recording: Walter Vogt 1976

The audio tracks for volume 1 were recorded, mixed, and mastered in March 2011 at Lontra Music Studio, Rio de Janeiro, RJ - BRAZIL

Graphic art, layout: Marco Pereira

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All musical examples are by Marco Pereira.

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Marco Pereira uses guitar strings
AUGUSTINE

LUPAZ EDIÇÕES

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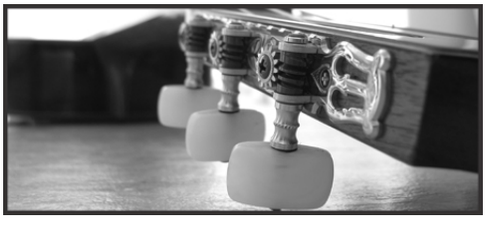
João Ferraz is a guitarist, producer, and sound engineer specializing in samba, choro, jazz, and contemporary instrumental music.



Marco Pereira Guitar Series
www.marcopereira.com.br
São Paulo, SP
B R A S I L