

Music Theory For Flamenco

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Basic Theory

The following is a brief introduction to music theory relevant to Flamenco.

Flamenco music is organized according to interval relationships from the chromatic scale, which consists of all the notes possible for the guitar; the fundamental **interval** is the **half step**, which is the pitch distance ("high" or "low") from one fret to another immediately above it on the guitar fingerboard.

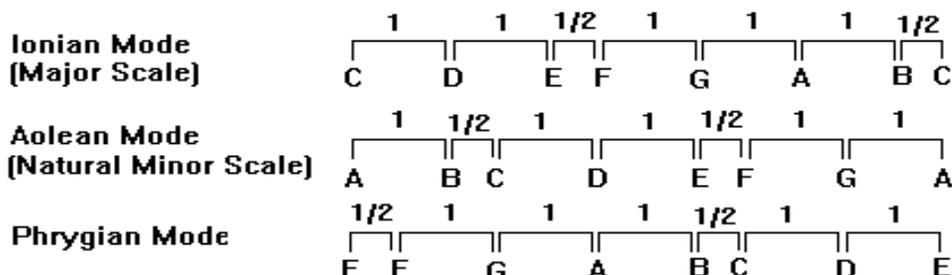
Another fundamental interval is the **octave**; this interval is the pitch distance obtained by dividing the length of the string (stopped at the nut and the bridge of the guitar) in half; on the 12th fret of the guitar, where the body of the guitar meets the neck on the traditional instrument (i.e., not cutaway). Relationships between notes of different octaves **starting from the same note** are the same, except higher or lower in pitch. In particular, corresponding notes and chords within each of these octaves will have the same names.

The guitar is normally tuned to a pitch of A=440 cps; the 5th fret of the open E string. However, for the Flamenco guitar all further discussion of theory will be relative to the position of the capo (or *cejilla*); which functions as the new nut of the guitar. The strings are considered to be in open tuning (E, A, D, G, B, E) from this point.

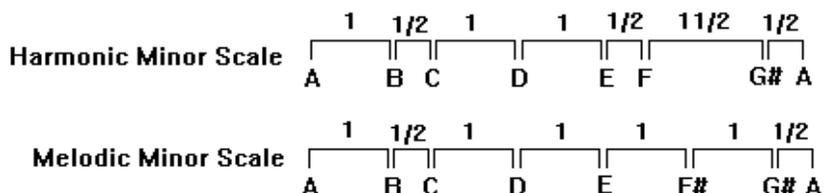
The octave is divided into 12 half steps, which correspond to the frets on the guitar within the octave. There are 12 possible starting points, each corresponding to a note in the **chromatic scale**, which consists of all possible notes on the guitar fretboard, organized in half steps. The notes (pitches) are named from the letters of the alphabet from A to G; notes can be named from the note below by appending a "#" (sharp) or from the note above by a "b" (flat). For the present discussion, note there is no sharp or flat between B and C or between E and F.

Modes and Scales

Within each key, **modes** form the foundations of the scales used in Flamenco. The modes are defined by the interval relationships from the natural scale, beginning on each note. The three modes used for flamenco are the **Ionian Mode** (the **Major Scale**), the **Aolian Mode** (the **Natural Minor Scale**) and the **Phrygian Mode**.



The Phrygian Mode has the most characteristic Flamenco sound, and forms the basis of the Gypsy toques (e.g., Solea, Bulerias, Siguiriyas). The Ionian Mode is also called the Major Scale; the Aeolian mode is used as the basis for the Harmonic Minor Scale, in which the 7th note is raised a half step:

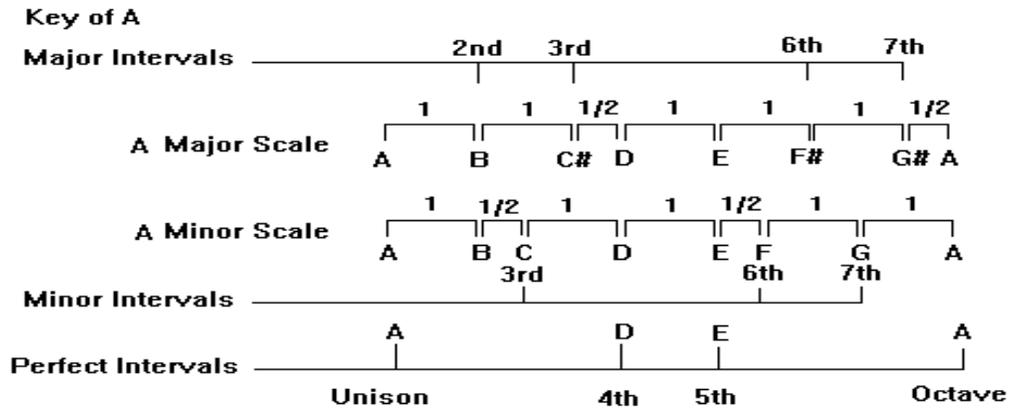


The three scales primarily used in Flamenco, then, are the **Major Scale**, the **Harmonic Minor Scale**, and the **Phrygian Mode**. (The Melodic Minor Scale is also used occasionally; it makes the interval jump from the 6th note to the 7th note less pronounced).

The Keys used for the Flamenco Guitar are those which include most or all of the open strings of the guitar (relative to the capo); that is, E, A, D, G and B. Within each key, the Major, Minor, and Phrygian Mode scales are related (i.e., use the same notes). We have already seen this in the above example, where C Major, A (Harmonic) Minor, and the E Phrygian Mode use (almost) the notes of the natural scale. In this case, A Minor is said to be the **relative** minor to C Major, and vice versa. Similarly, the E Phrygian Mode is said to be relative (or, more precisely, related) to A Minor and C Major.

Notes can also be referenced by their numerical position in the scale (calculating from the tonic, starting on "1", using the letter names of the notes). The pitch distance (or interval) for the unison, 2nd, 4th, 5th, and octave is independent of the **character** (Major or Minor) of the scale and are called **Perfect**, while the 3rd, 6th, and 7th **intervals** are designated **Major** or **Minor**, depending on the scale. Intervals half-step less than or greater than Major, Minor, or Perfect are called **Diminished** or **Augmented**, respectively. For chords, additional notes are often referenced by the octave above (e.g., a 2nd = 9th; 4th = 11th; 6th = 13th).

These relationships are shown in the figure below, along with the number of steps that define each interval:



Interval	Perfect	Major	Minor
Unison	0		
2nd	1		
3rd		2	1 1/2
4th	2 1/2		
5th	3 1/2		
6th		4 1/2	4
7th		5 1/2	5
Octave	6		

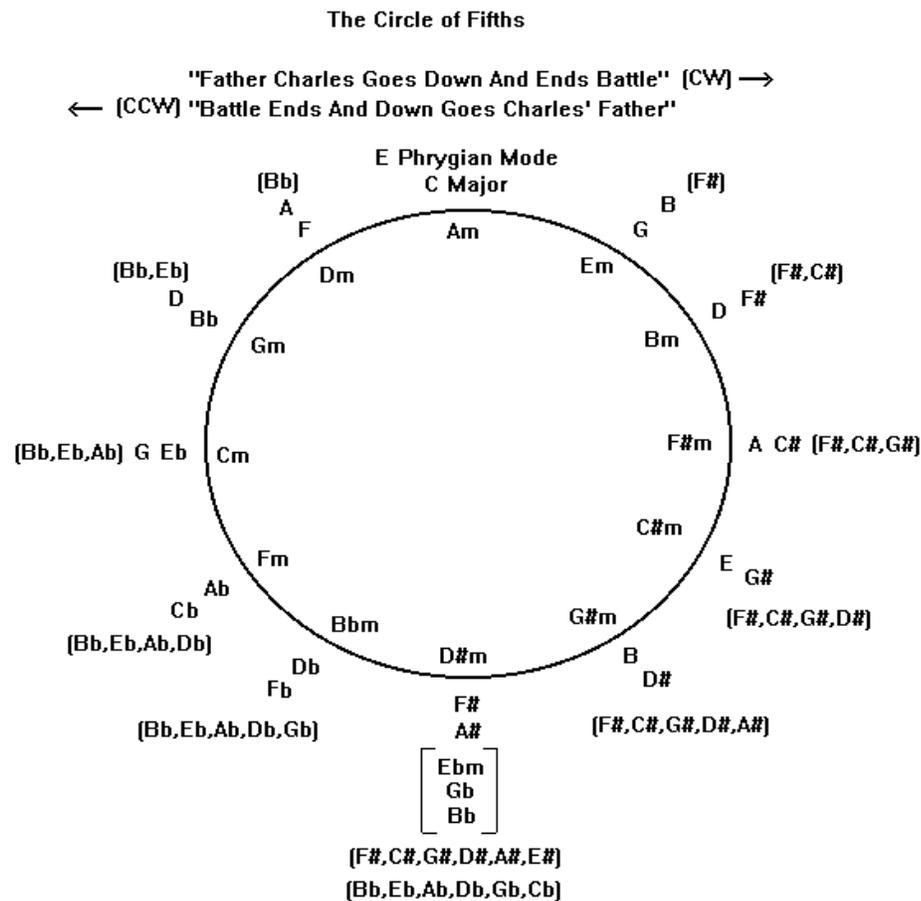
Steps in Interval

There are powerful relationships between the major and minor scales which will be further developed in the section on chords and their progressions (harmony). (The Phrygian Mode also is related, but somewhat differently.)

The Circle of Fifths

Keys and their associated scales can be arranged in a circle according to the number of sharps or flats they contain. Starting with the key of C Major (and its relatives; A Natural Minor, and E Phrygian Mode) at the top (no sharps or flats), the keys are arranged by 5ths in a clockwise direction, adding one sharp for each key, and in a counter-clockwise direction by adding flats. (Note that one goes in 4ths if traversing the circle in a counter-clockwise direction).

One way to memorize not only the order of keys around the circle of fifths, but also the particular sharps or flats that are added for each of them is through the sentence "Father Charles Goes Down And Ends Battle" for the clockwise direction, and "Battle Ends And Down Goes Charles' Father" in the counter-clockwise direction.



The Circle of Fifths is a convenient way of memorizing the various keys and scale structures, and will have further application as our discussion continues. It is especially effective in transposing harmonic and melodic sequences between keys.

Basic Chord Theory

Intervals can be used to define chords, which with their progressions form the basis of chording compas, and thus the foundation of Flamenco.

A chord can be defined as three or more (different) notes struck simultaneously; the three notes are determined by their interval relationships. This basic chord of three notes is called a **triad**.

Chords are defined according to the major or minor scale from their bottom note, or **root**. The Major and Minor chords are defined by the **root**, **third**, and **fifth** of the respective major and minor scales of their letter name. For example, the A Major chord consists of the notes A, C#, E, while the A Minor chord consists of the notes A, C, E. Note that the third (3rd) defines the **character** (Major or Minor) of the chord. The note A is the root of the chord, with the other notes calculated in ascending order.

Functional relationships are indicated with Roman numerals according to their place on the (major or minor) scale, and have a major or minor (or diminished) character depending on their position in the scale. The characters of the chords (Major or Minor) often indicated by upper and lower case letters, respectively, depending on the context (usually where reference is made to relative keys); we'll ignore the convention for the time being.

For example, C major and A minor are relatives of each other (at the top of the circle of fifths). The chords built on notes of their respective scales, and named accordingly are:

Key of C Major							Key of A Minor										
	5th	G	A	B	C	D	E	F		5th	E	F	G	A	B	C	D
	3rd	E	F	G	A	B	C	D		3rd	C	D	E	F	G	A	B
	Root	C	D	E	F	G	A	B		Root	A	B	C	D	E	F	G
		I	II	III	IV	V	VI	VII			I	II	III	IV	V	VI	VII

Keys Used for the Flamenco Guitar

The fundamental criterion that determines the keys and scales used for the toques of the Flamenco Guitar are the notes of the open strings relative to the capo that appear within the scale. These are the scales that have physical patterns of note placement on the guitar neck that are the most convenient, or have particular musical characteristics relevant (or traditional) to the palo being interpreted (e.g., B Phrygian for Granadinas, A Phrygian for Bulerias, etc.). These keys are those at the top of the circle of fifths, starting with the natural notes at the top and adding sharps or flats as one progresses CW or CCW.

A secondary (but related criterion) is the open strings that are used with chords in the open position of the guitar. For example, the key of F major has only one "b" in the scale (Bb), but the tonic F Major Chord (the most important chord of the key) consists of the notes F, A and C; none of which are open strings. The key of F Major is therefore not used as a basis for any of the traditional toques. Its relative, the A Phrygian Mode is used extensively, since the A Chord (A, C#, and E) includes two of the notes A and C and is easy to make in that key. Dm is used, but to a lesser extent, since the tonic is on the 4th string, and weaker as a "tonic" the 6th string is sometimes tuned to D for the bass.

In fact, it is one example of incorporating additional keys; by altering the tuning of the guitar for special effects. For example, the 6th string of the guitar (E) can be detuned to D, to provide a strong bass for Zambra or Farruca in Dm (since the D in open tuning occurs on the 4th string, which is too high to provide a strong resolution phrase).

Additionally, the tuning of the 3rd string (G) can be changed to F#, which provides an additional string for scalar melodies in Ronda (of course the fingering of all the chords have to be adjusted to compensate.)

Keys Associated with Flamenco Palos

The keys traditionally associated with the various Palos (Forms, Toques) of the Flamenco guitar are:

Basis Keys For Flamenco Toques

2/4 Compas Family		6/8, 3/4 Compas Family	
Farruca	(Am, Em, Dm [*])	Soleares	(E Phrygian)
Tangos	(A Phrygian)	Solea por Bulerias	(A Phrygian)
Tientos	(A Phrygian)	Alegrias	(A Major, E Major)
Rumba	(Am, Em)	Alegrias por Rosas	(E Major)
Zambra	(E Phrygian, D Phrygian [*])	Caracoles	(C Major)
Danza Mora	(E Phrygian, D Phrygian [*])	Cantinas	(C Major)
Taranto	(F# Phrygian Mode)	Romeras	(E Minor)
Mineras	(G, G# Phrygian Mode)	Fandangos	(E Phrygian)
Tanguillo	(A Major, A Minor)	Tarantas	(F# Phrygian Mode)
Zapateado	(C Major)	Granadinas	(B Phrygian Mode)
		Rondena	(F# Phrygian Mode ^{**})
		Malagueñas	(E Phrygian)
		Bulerias	(A, E Phrygian; Am; A, E Major)
		Peteneras	(E Phrygian)
		Guajiras	(A Major)
		Siguiriyas	(A Phrygian)
		Serranas	(E Phrygian)
		Fandangos de Huelva	(E Phrygian)
		Verdiales	(E Phrygian)
		Sevillanas	(A, E Phrygian; A, E, G, D, A, E Major, A, E Minor)

*6th String Tuned to D
 **6th String Tuned to D
 3rd String Tuned to F#

Sections of these toques are often performed in their **relative** keys (same notes, but different tonics), or in keys with the same tonic (different scales), but different character (“**parallel**” keys). For example, the keys of C Major, A Minor, and the E Phrygian Mode are relative to each other, while the keys of A Minor, A Major, and A Phrygian Mode are parallel.

“Question - Answer” in Flamenco Harmony

As with rhythm (e.g., see the Compas Analysis) one important characteristic of Flamenco is the very strong “question / answer” (tension / resolution) chording phrases, as expressed in resolution phrases.

The I chord is called the **tonic** chord in the progression, and the V chord is called the **dominant**. This is because the **dominant -> tonic** (or **V -> I**) relationship is that of the fundamental “Question-Answer” in its harmonic function, with the **sub-dominant IV** chord serving as a secondary “question”. Note that the dominant chord is a Major triad in both the Major and Minor keys; the strength of its “question” is often intensified by adding a Minor 7th note (technically, a dissonance) to the Major triad (e.g., E -> E7 in the keys of A Major/Minor.)

There is a strong isomorphism (parallel relationship) between the Major and Harmonic Minor scales and chord progressions; in fact, so strong that these scales / keys are called diatonic (“two tonics”) to set them apart from the other modes.

For example, for the key of Am, and the fundamental relations are:

	V7 -> I	IV -> I -> V7 -> I
A (Harmonic) Minor	E7 -> Am	Dm -> Am -> E7 -> Am
A Major:	E7 -> A	D -> A -> E7 -> A (“Parallel” Major)
C Major:	G7 -> C	F -> C -> G7 -> C (“Relative” Major)

The “character” of the dominant(7th), E(7) is the same for both the Major and Harmonic Minor keys; as mentioned above, the change from Em to E Major that provides the same relationship alters the scale from the natural minor to the harmonic minor.

For the Phrygian mode the situation is a bit similar, but different in that the parallel relation is different in terms of the intervals. For the key of C Major, or A Minor, the E Phrygian “tonic” is the III or the V chord, respectively. Since the E chord functions essentially as the “answer” of the E Phrygian mode, I feel it is best to give the Phrygian Mode its own emphasis by referring to this “tonic” as the I chord, with other chords labeled accordingly.

In this case, the “question” is the II chord, the “answer” the one chord, and the basic progression given by the Andalusian Cadence (where now it is useful to use lower case letters to indicate the character of the Am (for the case of E Phrygian):

	iv -> III -> II -> I
E Phrygian Mode:	Am -> G -> F -> E

Again, each chord in a transposition can be determined by counting in 4ths or 5ths, CCW or CW around the Circle of Fifths, respectively, e.g.

:

	IV -> I -> V7 -> I
C Major Scale:	F -> C -> G7 -> C (CCW by 4th)
G Major Scale:	C -> G -> F -> E (starting key)
D Major Scale:	G -> D -> A7 -> G (CW by 5th)

	iv -> III -> II -> I
A Phrygian Mode:	Dm -> C -> Bb -> A (CCW by 4th)
E Phrygian Mode:	Am -> G -> F -> E (starting key)
B Phrygian Mode:	Em -> D -> C -> B (CW by 5 th)
F# Phrygian Mode:	Bm -> A -> G -> F# (CW by 5 th again)

For additional transpositions, start counting on 1 again (E.g. the next Phrygian Mode keys in the example above would be Eb and F#, for CW and CCW transpositions, respectively. Note the transition to a “#” key in the last case (F# Phrygian Mode), and that the D Phrygian Mode (Eb Major, G Minor) is not used except as a secondary key, scale, or chord since both the 1st and 6th strings (E) are not included in the scale - and especially, that they are the roots and tonics of the chords and scales in question.

Major, (Harmonic) Minor, and Phrygian Mode Keys Used For Flamenco

With these criteria in mind, the Major, Minor, and Phrygian Mode Flamenco keys are:

Major Keys used in Flamenco

	Major Scale							Major Chords			Relative Minor Chords			Related Phrygian Mode Chords			
Interval	U *	P	M	P	P	M	M	I	V7	IV	I(m)	V7	IV (m)	IV(m)	III	II	I
	2nd	3rd	4th	5th	6th	7th	**										
Key	C	D	E	F	G	A	B	C	C	, G7, F	Am	, E7, Dm	Am	G	F	E	
A Major	A	B	C#	D	E	F#	G#	A	A	, E7, D	F#m	, C#7, Bm	F#m	E	D	C#	
E Major	E	F#	G#	A	B	C#	D#	E	E	, B7, A	C#m	, B7, F#m	C#m	B	A	G#	

Auxilliary Keys

F Major	F	G	A	Bb	C	D	E	F	F	, C7, Bb	Dm	, A7, Gm	Dm	C	Bb	A	
G Major	G	A	B	C	D	E	F#	G	G	, D7, C	Em	, B7, Am	Em	D	C	B	
D Major	D	E	F#	G	A	B	C#	D	D	, A7, G	Bm	, F#7, Em	Bm	A	G	F#	

*Tonic, Root **Octave M = Major m = Minor
U = Unison P = Perfect

Minor Keys used in Flamenco

	Harmonic Minor Scale							Minor Chords			Relative Major Chords			Related Phrygian Mode Chords			
Interval	U *	P	m	P	P	m	M	I(m)	V7	IV (m)	I	V7	IV	IV(m)	III	II	I
	2nd	3rd	4th	5th	6th	7th	**										
Key	A	B	C	D	E	F	G#	A	Am	, E7, Dm	C	, G7, F	Am	G	F	E	
A Minor	A	B	C	D	E	F	G#	A	Am	, E7, Dm	C	, G7, F	Am	G	F	E	
E Minor	E	F#	G	A	B	C	D#	E	Em	, B7, Am	G	, D7, C	Em	D	C	B	

Auxilliary Keys

D Minor	D	E	F	G	A	Bb	C#	D	Dm	, A7, Gm	F	, C7, Bb	Dm	C	Bb	A	
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Note: the 7th would be a minor interval in the Natural Minor Scale. (No Accidentals)

*Tonic, Root **Octave M = Major m = Minor
U = Unison P = Perfect

Phrygian Mode Keys used in Flamenco

	Major Scale							Phrygian Mode Chords				Related Major Chords			Related Minor Chords			
Interval	*	2nd	3rd	4th	5th	6th	7th	**	IV(m)	III	II	I	I	V7	IV	I(m)	V7	IV (m)
Key	E	F	G	A	B	C	D	E	Am	G	F	E	C	, G7, F	Am	, E7, Dm		
A Phrygian	A	Bb	C	D	E	F	G	F	Dm	C	Bb	A	F	, C7, Bb	Dm	, A7, Gm		
B Phrygian	B	C	D	E	F#	G	A	B	Em	D	C	B	G	, D7, C	Em	, B7, Am		
F# Phrygian	F#	G	A	B	C#	D	E	F#	Bm	A	G	F#	D	, A7, G	Bm	, F#7, Em		

Auxilliary Keys

C# Phrygian	C#	D	E	F#	G#	A	B	C#	F#m	E	D	C#	A	, E7, D	F#m	, C#7, Bm		
G# Phrygian	G#	A	B	C#	D#	E	F#	G#	C#m	B	A	G#	E	, B7, A	C#m	, B7, F#m		
D Phrygian	D	Eb	F	G	A	Bb	C	D	Gm	F	Eb	D	Bb	, F7, Eb	Gm	, D7, C#m		
G Phrygian	G	Ab	Bb	C	D	Eb	F	G	Cm	Bb	Ab	G	Eb	, Bb7, Ab	Cm	, G7, Fm		

*Tonic (Final) **Octave M = Major m = Minor

Basic Phrygian Mode Chord Substitutions

The Phrygian Mode uses characteristics of both the major and minor scales, with a number of important differences. If the chords of the Phrygian Mode are characterized according to Roman numerals starting with their “tonic” (technically called the **final**), then the basic “Question-Answer” relationship is provided by a II -> I progression. For the Key of E Phrygian Mode, this would be the progression F -> E. Here the E is a major chord (the “pure” Phrygian mode in the key of E is defined using a G, relative to the natural minor). The (Phrygian) I major chord makes the progression much stronger and in addition functions as the dominant to the relative minor (Am for the case of E Phrygian Mode). The natural note and chord (G) appears in the III chord in the progression; the chord’s position in the progression determines which note will be played in a falseta sequence.

There are a number of important substitutions that can be made in the Andalusian Cadence. The II chord is often substituted for the IV chord in the Andalusian cadence, which gives the progression (E Phrygian): F -> G -> F -> E; the relation to “question -> answer” is obvious if the progression is repeated. Other progressions used are (E Phrygian Mode):

Dm -> C -> F -> E
C -> G -> F -> E
F -> C -> F -> E

(Note: Sometimes dominant 7th chords are substituted as well (e.g., for G, F, and/or E in the above progressions).

Dm -> C7 -> F -> E
C7 -> G7 -> F7 -> E
F -> C -> F7 -> E7 -> (Am -> G -> F -> E)

Secondary Dominant Chords (Phrygian Mode)

Note that the relative dominant -> tonic relationships (within keys) are “**secondary dominants**”; e.g., the chord progressions (E7 -> Am) and (G7 -> C) relative to the E Phrygian Mode. The relative major does not introduce an accidental, and the relative (harmonic) minor introduces the G# as discussed above. Of particular importance in Flamenco is the “Cambio” which is the secondary dominant to the II chord in the Phrygian mode, in this case, the progression (G7 -> C) -> E as a “hook” for the cante.

Another application of **secondary dominants** is the use of chords that are not contained in the key, but serve as dominant chords to other chords that are. For example, the E Phrygian Mode chord progression Am -> G -> F -> E might be replaced by:

(E7 -> Am) -> (D7 -> G) -> (C7 -> F) -> E.

In this case, the “secondary question” chords (D7 and C7) are dominant chords within keys defined by their “secondary answers” (G and F). A7->Dm can also be used in this context; however, the B7 -> E progression is not generally used (for E Phrygian Mode), since the “question-answer” sequence is already F -> E).

These secondary dominant chords are also an important source of accidental notes within the key in the case of the III and II chords. (E.g. D7 introduces an F#, C7 introduces a Bb). (The A7 would introduce a C# in the case of the VII chord, Dm).

(A Phrygian Mode) Example

For the A Phrygian Mode, the substitutions are:

IV	III	II	I (Andalusian Cadence)
Dm	C	Bb	A (A Phrygian Mode)
(A7->Dm)->	(G7->C) ->	(F7 -> Bb) ->	A (Secondary Dominants)

Again, the secondary dominants introduce accidentals into the Phrygian Mode in the cases of the III and II chords (B in the case of G7, and Eb in the case of F7).

Secondary Dominants (Major and Minor Keys)

"Dominant of the Dominant"

For the major and minor scales the secondary dominant to the subdominant is as expected; for example, the dominant A7 to the subdominant D chord in the key of A Major introduces the accidental note G. However, the secondary dominant to the dominant 7th chord (the "dominant of the dominant") is the chord a half step up. In the key of A major or A minor, the progression would then be:

[F -> E(7)] -> A(m)

Here the F chord acts as the dominant of the dominant 7th of Am, before finally resolving to the tonic. A complete sequence in the key of A or A minor might then be (SubDominant -> Tonic -> Dominant -> Tonic):

D	A(m)	E7	A(m)		Major or Minor Progression
A7 -> D(m)	E7 -> A(m)	F -> E(7)	E7 -> A(m)		(with Secondary Dominants)

Dominant of the Sub-Dominant

Note that the dominant chord (E7) of the (A) minor key is a half step below the subdominant chord (F) of the relative major key (C). This means that the major subdominant can be prepared (i.e., a "dominant of the sub-dominant) by this chord before resolving to the tonic C. (Reversing the II -> I Phrygian progression)

For example, in the progression (E -> F) -> C -> G7 -> C, the E chord approaches ("prepares") the sub-dominant F of the C Major key from a half-step below. Compare with the normal secondary dominant progression (C7->F) -> C -> C7 -> C.

The extensive use of secondary dominants in Flamenco is one of the trademarks of "modern flamenco"; although they had been used peripherally for quite some time, it was Paco de Lucia and Camaron that brought them into general prominence in all the palos.

Secondary Dominant Scales

It is well known that scale patterns are used in Flamenco, and are related in their layout on the guitar neck. For the key of A Phrygian, the pattern corresponds to F# (D Major) at the 3rd position and G# (E Major) at the 1st position; the sequence is important because of its relation to the Andalusian cadence. This means that if you derive melodies using these patterns at these positions, you'll be playing in strict Phrygian Mode (resolving to C (= "A" at 3rd position) and Bb (= "A" at 1st position), respectively.

However, the use of secondary dominants has a subtle effect on melodic phrases in Flamenco. Modern Flamenco guitarists will often use the scale patterns of the secondary majors at positions III and I. This means (in the context of the A Phrygian Mode) the use of the A major patterns at the 3rd (= C Major) and 1st (= Bb Major) positions, respectively, instead of the above, finally resolving the sequence to A Phrygian at the open positions. This means that you'll actually be changing key relative to the chord in the progression; the key at III will now be C Major, and the key at I will now be Bb Major.

These accidentals give a different "flavor" to the melodies than the use of straight Phrygian. These relationships can be transposed to all the other positions and/or keys of the Flamenco guitar, of course.

Because of its strong relation to guitar patterns and their relation to the Phrygian Mode, this is a very guitaristic effect, and fairly unique to flamenco.

Accidentals and Complex Chords

Accidentals

Accidentals are notes that are not included in the definition of the scale. The first case in the above discussion was the substitution of the #7th for the 7th note of the Natural Minor scale (the #3rd note in the V chord) to give the Harmonic Minor scale. The second case was the additional modification to the Melodic Minor scale (# 6th for the 6th note); another example is the notes introduced by the secondary dominant chords in their chord progressions. A third case was the substitution of a II7 “dominant” chord F7 for the II chord in the Phrygian Mode progression. For the E Phrygian mode, these notes were G# (Em -> E), (F -> F#), and (D -> D#), respectively.

Other accidentals are used in chromatic scale runs, and as passing notes in melodies (temporary changes that function as ornaments, and only suggest a change in harmony).

Complex Chords

Other notes may be added to the chord to enhance their functions; these are called **embellishments**. For these notes, the name of the interval from the root is calculated from major or minor scales as before, but an octave higher (e.g., a minor 9th as opposed to a minor 2nd, a major 11th as opposed to a minor 4th, etc.; sometimes “sharp” or “flat” is used for accidentals, to distinguish the type of note from the character of the chord)

Additional notes **within the key** can be added to embellish chords ; the examples given below can be transposed to all the keys of the Flamenco guitar.

Dominant 7th Chord (Major/Minor)

One of the most important of enhancements is the addition of a minor 7th note to the dominant chord to make a dominant 7th chord for the major and minor keys, which increases its dissonance to intensify its role as a “question”. For example, a G7 chord consists of a G Major chord (G,B,D) + F, which is the 7th of the G Minor Scale (the G Major scale has an F#), it is used in the progression G7 -> C (V7 -> I). Similarly, the E7 chord is formed by adding the minor 7th of the scale of E Minor (D) to the E major chord, making it an E7, which is the dominant 7th to the A minor chord in the key of A minor; it is used in the progression E7 -> Am (V7 -> I).

I7b9 Chord (Phrygian Mode)

Another important enhancement is the addition of the root of the II chord to the tonic (I) chord; i.e., adding a flat 9th (b9th) to that chord (remember, the calculation is performed using the major scale built on the root of the chord). In the E Phrygian mode the note F would be added to the E major chord, E,G#,B + F. (The calculation would be from the E major scale; the 9th note is F#, so the b9th note would be F). This gives a I7b9 chord (E7b9 in the E Phrygian Mode).

Diminished (7th) Chord

The Diminished Triad is the chord constructed on the 7th note of the major scale; in the key of C major, it would have the notes B, D, and F, made up of minor third intervals (1 1/2 steps). If the G# is added to the chord, the notes will be B, D, F, G#, which is called the Diminished 7th Chord, with its name given by the note that is voiced as root (in this case, B, or Bdim7). The chord repeats each minor third, so any of its notes can be its root (practically, it means the chord can be slid up the guitar neck, repeating every fourth position; i.e., there are only three possible chords of this type). Note that the Bdim7 has the same notes as an E7(b9th) chord (E,G#,B,D,F) minus the root. It is therefore used primarily as a substitute for the dominant 7th of the related minor (Bdim->Am) or as an embellished E Phrygian mode Tonic ; Am->G->F->("E" = Bdim7). See discussion below.

II Maj7 Chord (Phrygian Mode)

The tonic note of the Phrygian mode, can be added to the II chord in the Phrygian Mode (a major 7th in relation to that chord; the 7th note of the major scale built on the root) , making it a major 7th chord, which has the same effect. For example (E Phrygian), the F chord + the note E is an Fmaj7th, which is used in the progression Fmaj7 -> C -> Fmaj7 -> E, characteristic of Solea. Although this chord is generally felt to be "neutral" in classical and jazz contexts, it has a bit more impact in Flamenco contexts due to its function in the II -> I progression.

"Sliding I Chords" (Phrygian Mode)

Complex chords in Flamenco are sometimes made in Phrygian Mode by sliding a basic chord in the open position form up a fret or three (depending on the key); the open strings will add the additional notes. One example of this (E Phrygian Mode) is sliding the basic E chord up a fret to form an F, and to the third position to form a G. Another example is partial barring an E chord at the 2nd position to make an F# (e.g., for use in Taranto), leaving the 1st and 2nd strings (E, B) open (F# Phrygian Mode).

"Passing Notes" in Chords

Notes of the scale can be added to the tonic, dominant, and subdominant in the major keys as well; for the major keys, this adds a "Latin American" flavor to the chord progressions. For minor keys, these notes are used primarily as passing notes in a progression.

One example the above is:

C6 -> D6 -> C6 -> B7 as a substitute for:

C -> D -> C -> B7 in Paco de Lucia's "Entre Dos Aguas" in B Phrygian/E minor.

(Note: the basic chord is a barred C, with the fifth string open at each position, giving the 6th in the bass.)

Note that the C6 chord (C,E,G,A) (in the Flamenco substitution) would be spelled as an Am7 (A,C,E,G), in a diatonic context but the harmonic progressions (and thus their functions) are different. The 9th and/or 11th notes can also be added in various contexts. (C9 = C,E,G,D) ; C11 = C,E,G,F).

Diminished 7th Chords in Flamenco

Since you can think of the Diminished Triad as a Dominant 7th without the root, the concept can be extended to the Diminished 7th chord, which adds a note another diminished 3rd above the triad. There are several cases within a key (the Diminished 7th chord can be named by any of its notes, but its place in the progression is determined by its (absent, implied) root, and its function as a (secondary) dominant substitution:

(quotes indicate the Dominant 7th chord without the root, "-" indicates diminished interval)

E Phrygian Mode (C Major, A Harmonic Minor)
(Transpose to other keys as appropriate)

Dominant 7th Substitutions:

"G7"(-9) -> C (C Major)
B,D,F,G# -> C (C,E,G)

"E7"(-9) -> Am (Relative Harmonic Minor)
G#,B,D,F -> Am (A,C,E)

Secondary Dominant 7th Substitutions

"C7"(-9) -> F
E,G,Bb,F -> F

"D7"(-9) -> G
F#,A,C,D# -> G

"A7"(-9) -> Dm
C#,E,G,A# -> Dm

One other point. In the Phrygian Mode, the "Dominant of the Dominant" for the Harmonic Minor is (F->E) -> Am. This means that you can also include the diminished (or dominant 7th) chord a half step up from the dominant 7th within the key; e.g.:

["F7(-9) -> "E7"(-9)] -> Am (Relative Harmonic Minor)
[A,C,D#,F# -> G#,B,D,F] -> Am (A,C,E)

This descending half-step diminished/dominant 7th "preparation" also works in the other contexts, although not quite as effectively, I think.

Note (personal taste): These substitutions are most Flamenco if used in the Toques Intermedios (Granadinas, Tarantas, Malaguenas, Rondenias, etc.)

If used with the "core" Flamenco toques (Bulerias, Solea, Alegrias, etc.), they can dilute the strong resolutions that give power to these palos. But they can be used effectively, to be sure; it is a question of taste

Modulation

Modulation is the process of changing to scales and their corresponding progressions in different keys. (Modulation is different from transposition, in that it refers to a change in key with different melodic and harmonic relations, rather merely transferring the same musical theme to a new key).

One important way is to change from a key of one character (major, minor, Phrygian mode) to the same key with a different same character (e.g., key of A Major to A Minor, as in the Silencio of the Alegrias, from E Phrygian to E Major, as in the "remate" of the Soleares. This is called a "**parallel**" modulation.

Another is to modulate relatively within the key (e.g., E Phrygian to C Major, as in the copla to Fandangos de Huelva), or (E Phrygian <-> Am) or (C Major <-> Am). This is called a "**relative**" modulation.

Another method (not often used for Flamenco except as a solo device) is to transfer through a sequence of secondary dominants (with the secondary dominant "answer" becoming the secondary dominant "question" of the next sequence). Of course, intermediate keys can be temporarily established before making a second transition.

E.g. (Modulating from E Phrygian to F# Phrygian via D Major)

E (E Phrygian) -> Am (E Phrygian) -> A7 ((D Major) -> D (D Major/F# Phrygian) -> A (F# Phrygian) -> G (F# Phrygian) -> F# (F# Phrygian)

(A7 is the secondary dominant of Dm in the key of E Phrygian)

Note: this is not a traditional Flamenco sequence.

Still another method used in Jazz, but **not** in Flamenco is modulation around the Circle of Fifths, altering the tonic to the dominant 7th of the next key or vice versa. Eg.,

C	F	Key
(G7 -> C) -> (C7 -> F)		Progression (ccw)
C	G	Key
(C -> G7) -> (G -> D7) -> G		Progression (cw)

Artistic Preferences

There are a number of ways of adding complexity (whether it is "interesting" or not is a question of taste) to flamenco harmony. The easiest way is to add other notes of the natural scale to the I, IV, V chords, as we did for the dominant chords, and the II chord of the Phrygian mode. This usually gives a Latin feel to the progression, as was used a great deal by Sabicas. These notes can also be added to chords in the Phrygian progression.

In addition, chromatic (half step) scale sequences from the diatonic scale are sometimes used in scale runs. Passing chords are sometimes used chromatically in progressions (e.g. the G->F#->F->E sequence in Verdiales).

Modulation is used sparingly in most Flamenco; listen for its traditional applications. Too much harmonic complexity reduces the intensity of the resolution "question-answer" sequences, which are strongly related to the harmonic expression of compas.

Relating scales to chords rather than vice versa (the Classical approach) is also characteristic of Blues, which does the same thing for the Tonic, Dominant, and Sub-Dominant chords/scales. More advanced approaches are used by Jazz and other musicians, which are currently being cross-fertilized back into Flamenco; your acceptance will depend on your personal taste.

But if you're bored with traditional flamenco.....