Modulation

Modulation occurs when music changes key. Most modulations belong to one of two categories.

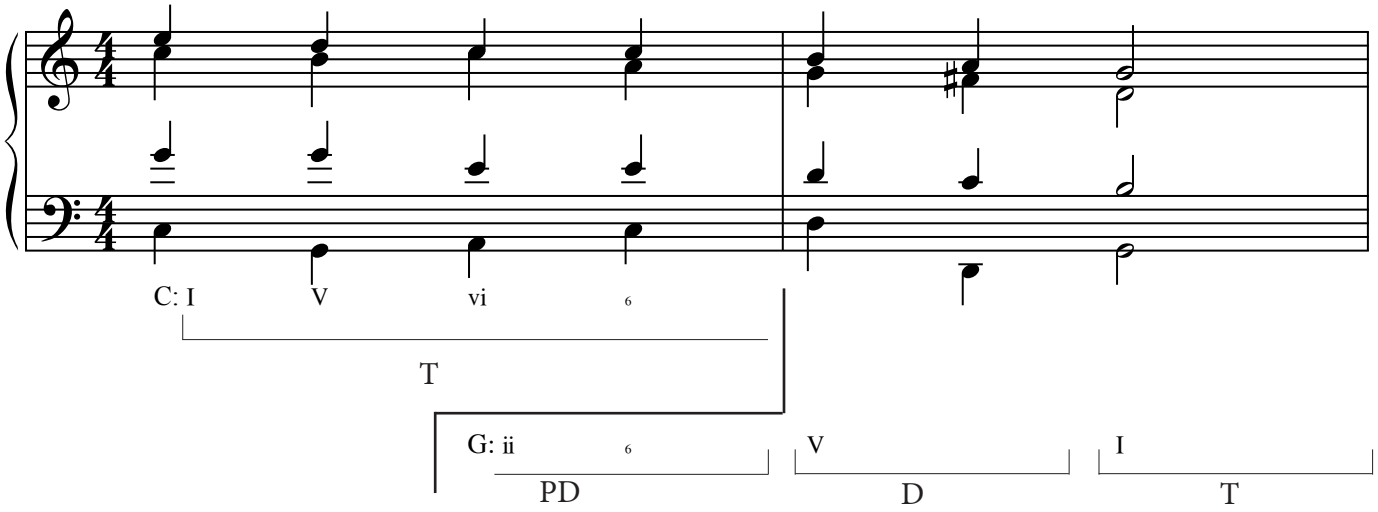
In *phrase modulations*, also sometimes called *direct modulations*, there is an abrupt change of key that coincides with a phrase boundary. One phrase cadences in one key, and the next phrase simply begins in a different key. The phrase modulation is a large category that includes a number of techniques, such as sequential modulation and common-tone modulation.

In a *pivot-chord modulation*, the modulation takes place at least somewhat gradually, and it occurs in the midst of the phrase; the phrase begins in one key and cadences in another. (When the phrase modulates twice, so that there is no cadence in the second key, we speak of a *transient modulation*, a special case of pivot-chord modulation).

Pivot-chord modulations can be somewhat complex, especially when the keys involved are distantly related. We will restrict our focus to closely related keys, that is keys that are within one step along the circle of fifths. Equivalently, this means that we will look at modulations to keys whose tonic triads are diatonic in the home key. (An important note: in minor, this means that modulation to the dominant is to the minor dominant, the key of v, not to the major key whose tonic triad is V in the home key! From A minor, we modulate to E minor, one step sharpward along the circle, not to E major, four steps sharpward.)

Pivot-chord modulations can sound smooth and gradual because a chord, called the *pivot chord*, that fits perfectly in the first key is also interpretable from the standpoint of the second key; when the music continues out of this chord in the new key, it sounds smooth because in some sense we were already potentially in the new key while hearing the pivot chord, even though we weren't aware of it at the time.

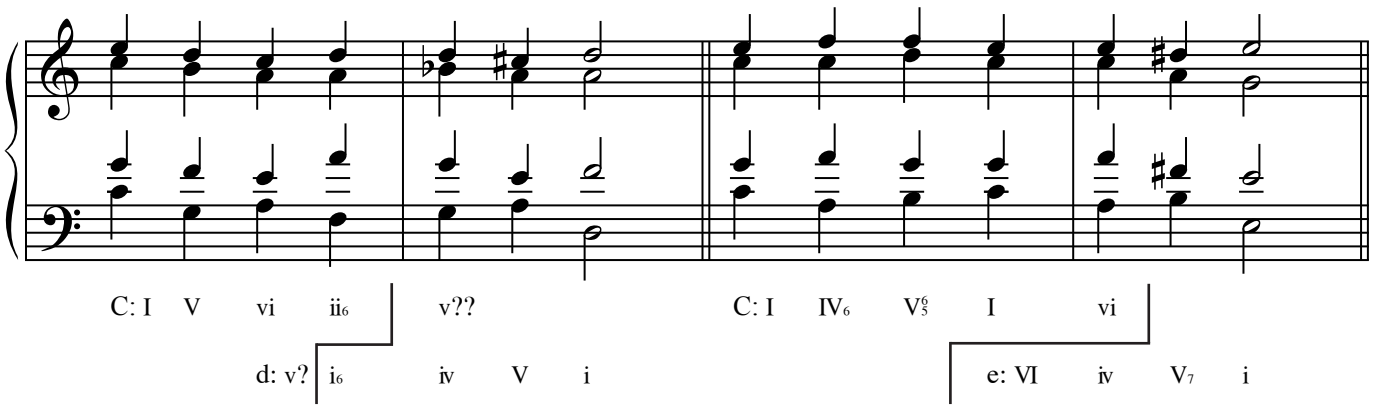
Because the pivot chord is interpretable in two keys, it is given two harmonic analyses, separated by a bracket.



To be as complete as possible, the example also includes harmonic function analysis. Just as the pivot chord has two roman numeral analyses in the two keys, it also has two harmonic functions. Because the segments are incomplete, the brackets lack borders on one side or the other. Because harmonic function depends upon context, and because the context is incomplete, pivot chords are often somewhat ambiguous in their harmonic function. Because HF analysis can be graphically cumbersome, most of the examples in the notes will omit it -- but you should include it in your homework.

This basic picture of pivot chord modulations is somewhat oversimplified; three further points should be noted.

1) Although the term and the theory posit a single pivot chord, sometimes more than one chord fulfills the pivot function. For example, in the first example below, the D-minor chord on the fourth beat of the first measure is the only possible pivot chord, because the A-minor chord that precedes it would be a strange minor dominant in D minor, and because the G-minor chord that follows it would be an even stranger non-diatonic minor dominant in C major.



In the second progression, in contrast, the idiomatic motion of VI going to iv in the new key makes a two-chord pivot segment psychologically plausible.

In general, the position and length of the pivot segment must both be determined by ear. The first chord that is unambiguously in the new key is the first key after the pivot segment, and the first chord in the pivot segment is the first chord that seems in retrospect to have belonged to the new key. This may be a judgment call in some cases, and listeners may disagree about exactly where the pivot segment begins for them.

2) Because the ear is the judge of where the pivot segment begins and ends, it follows that they eye is not, and that the eye may offer misleading evidence in some cases. For example, in a phrase that will eventual modulate to the dominant, a V/V may appear well before the modulation begins as a secondary dominant and not as part of a pivot segment. Similarly, in our first example, the pivot segment should really have ended before the change to first inversion in the vi chord. vi6 is very common in modulations to the dominant but rather uncommon otherwise; it can occur within a 5-6 sequence, as a voice-leading chord breaking up parallel fifths between I and ii, or as a substitute for root-position I (especially in music from the second half of the 19th century). None of these cases applies here, and so for a sufficiently sensitive listener, the modulation is already virtually a done deal with the appearance of vi6 (really heard as ii6).

3) The theory of pivot-chord modulations works in the sense of providing accurate insight into phrases that modulate smoothly in the middle, but it is not a sufficient theory; the mere presence of a chord that may be understood in both the starting and ending keys does not by itself guarantee a smooth modulation. Indeed, beginner attempts at modulation often produce strange, Frankenstein-like phrases in which a sensible beginning and a sensible end have been joined together extremely awkwardly.

If you want to write a successful modulating phrase, it is often very helpful to conceive of the phrase as a whole, and to do this it can be very helpful to focus exclusively on the melody; this will activate many of your musical intuitions, avoiding Frankenstein phrases, and ignoring harmony often allows it to function better subconsciously than it could consciously -- you will almost always be able to find a good harmonization for a melody that makes a convincing modulation.

Try improvising melodies that modulate, using the following four stages.

a) Establish tonic in the first key. Start some music that sounds like the beginning of a melody and that gives you a clear sense of tonal orientation.

b) Move into what might be called a melodic pivot region, in which you use only scale degrees common to the two keys (this melodic pivot region will often be longer than the actual pivot region of the harmonized phrase).

c) Establish the new key with some music that clearly orients the listener to the new tonic.

d) Confirm the new key with a cadence. (In the case of a transient modulation, this step is omitted, and stage c of the first modulation overlaps with stage a of the second modulation.)

Once the melody has been written (and very likely revised after the initial improvisation) you can treat it as a given melody and harmonize it as you would normally. Of course, if you run into trouble, in this case you are free to adjust the melody.

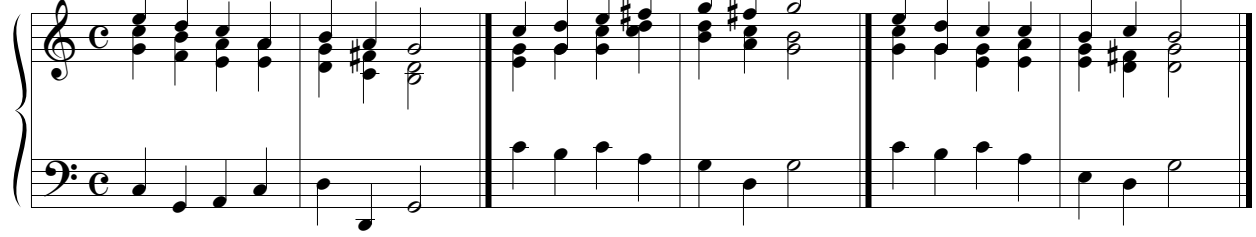
This approach to writing modulatory phrases often works much better than the approach that starts with a chord progression, because with the exception of skilled improvisers on keyboard or guitar, a chord progression as a starting point will often be a product of a purely intellectual process, leaving out crucial musical intuitions.

These notes conclude with a set of examples of idiomatic modulations borrowed from Gene Biringer.

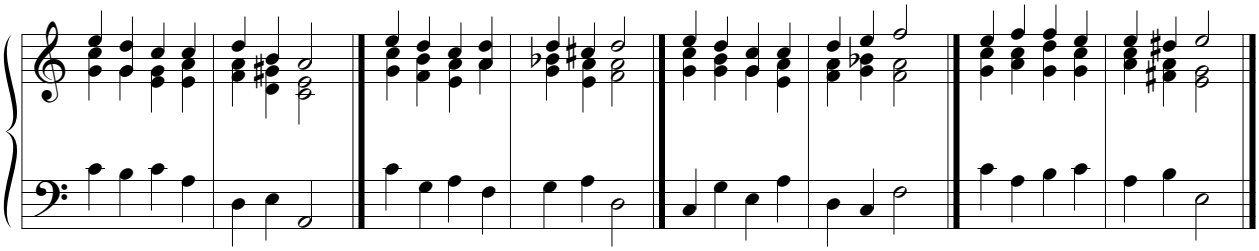
Idiomatic Pivot-chord Modulations

from Major key

Modulation to V



Modulation to vi



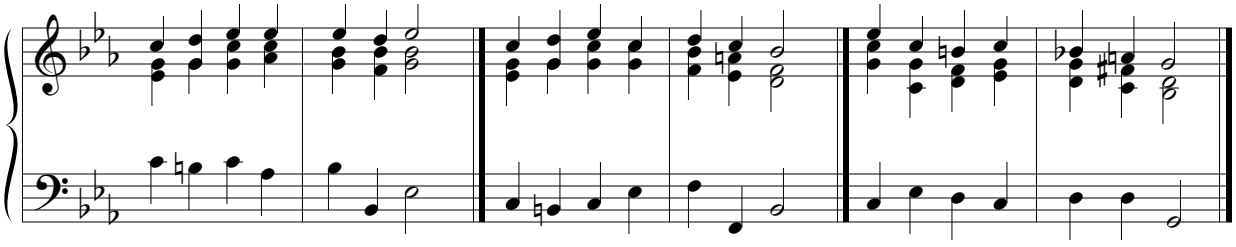
Modulation to ii

Modulation to IV

Modulation to iii

from Minor key

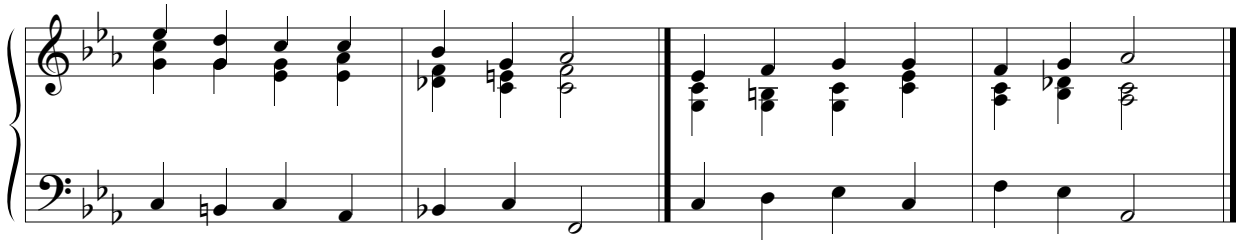
Modulation to III



Modulation to VII

Modulation to v

Modulation to iv



Modulation to VI