

A. Introduction

When a passage of music *modulates*, the tonic note (*do*) changes. In most music from the 18th and 19th centuries, the original *do* returns. Such music is said to be *monotonal*. In some 19th- and 20th-century music and in selected popular music styles, the original tonic *does not* return at the end.

To study modulation, simply put, is to study the various keys through which a piece of music passes. While there are numerous issues, here are three of the most important things to consider: 1) *how long* is the music in a particular key; 2) what are the *relationships* between the keys; and 3) what *modulation process* did the composer use to move from one key to another?

The ultimate goal after finding all of the above data is interpreting it by thinking about *hierarchy*. Put differently, you need to ask yourself questions such as, “so, what are the *most important* keys in this passage? what relationships do the various keys have—is there some recognizable *pattern*? what modulation processes are most frequently used in this passage? what—if anything—is unusual or striking about the keys and/or modulation processes encountered?”

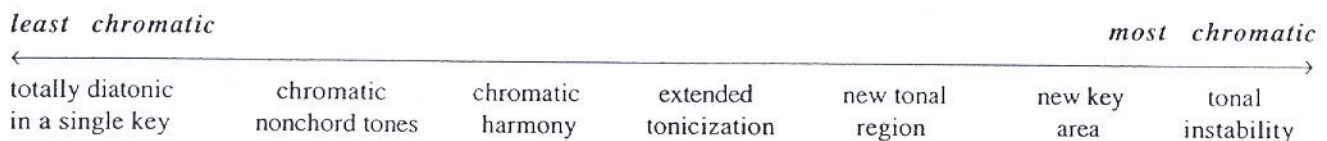
B. Recognizing modulations

1. First and foremost, you must be able to discern what key(s) the passage is in. While there are numerous things to think about, here is a maxim that will work virtually all of the time:

bass line patterns and cadences show the keys
2. In addition, you can look and listen for a *change of collection* (accidentals added, or the disappearance of expected accidentals) and also for a cadence in the new key. The cadence is what helps to create the distinction between a simple tonicization and a true change of key.
3. Bear in mind, too, that there will be a *signal*—the note that first suggests that the collection has changed. The signal may be an added accidental (often it will be the leading tone of the new key), or it may be the *lack of* an expected accidental. Think carefully when dealing with minor keys: The leading tone is an expected accidental, so the disappearance of this accidental might be the signal of a modulation (especially if *te* leaps).
4. Two simple examples:
 - a. You determine that a passage begins in the key of C Major and concludes with a cadence in G Major. The signal will be the pitch F \sharp .
 - b. You determine that a passage begins in the key of C minor and concludes with a cadence in E \flat Major. The signal will be the *disappearance* of the accidental B \sharp , as the pitch B \flat will emerge prominently as the dominant of E \flat .
5. A couple of important, additional techniques for key identification:
 - Try singing a melodic line or lines using solfège. If the syllables get really strange, then perhaps you are thinking in the wrong key.
 - Try out a few Roman numerals. If they get really strange, then perhaps you are thinking in the wrong key.
 - If you're really stumped, simply do a jazz/pop symbol analysis for a while, then examine the results to determine the key in which patterns fit best.

C. How chromatic is the passage under study? How long is it in a particular key?

The diagram below shows an approximate *hierarchy* of tonality—that is, a range from music that's totally diatonic to music that's so chromatic that it's very difficult to get a handle on its tonality. See the next page for definitions of terms and material in prose (rather than diagram) format.



Here is a prose version of the approximate hierarchy of tonality. Item number 1 would be the least chromatic end of the spectrum; item 8 would be most chromatic. Some of the chord types (see items 3c and 3d, for example) may be unfamiliar to you right now; that's OK. Terms which refer specifically to the length of time in a key are in *bold italics*.

1. Functional use of diatonic chords within one tonality; no chromaticism at all.
2. Addition of chromatic nonchord tones in the melody (not yet chromatic *harmony*).
3. Chromatic harmony:
 - a. mode mixture—borrowing from parallel scale—chords such as iv, ii^ø₅, \flat VI in a major key. Note that these chords often arise from *lowered notes* such as *le* and/or *me* occurring in an otherwise major-mode passage.
 - b. secondary chords—secondary dominants, secondary diminished sevenths, and so on. Note that these chords often arise from *raised notes* such as *f $\acute{}$ i* or *si* or *mi* when in minor.
 - c. altered chords—Neapolitan, augmented sixth chords.
 - d. nonfunctional, linearly- or melodically-derived harmony.
4. ***Extended tonicization***—a brief group of chords, sometimes including a cadence, that *very temporarily* establishes a new tonic. Some call this a ***tonal cell***. When we said “ooooooooof” something in class (4–5 chords temporarily interpreted in some nontonic key), we were labeling extended tonicizations. Probably the most common example is an extended tonicization of the dominant establishing a strong half cadence.
5. ***Tonal region***—longer than a tonal cell, a tonal region is when the music “visits” some key for about a phrase or so.
6. Change to new ***key area***, established by at least two phrases in the new key, with eventual return to the original tonality (i.e., monotonicity). The new key area may be of varying length.
7. Change to new key area, established by at least two phrases in the new tonality, with no return to original tonality.
8. ***Tonal instability***—continual, frequent changes of key. Often manifested as rapid tonicizations of various keys (often in some recognizable pattern), tonal stability doesn't really refer to how long one is in a key so much as it characterizes the instability and chromaticism of a passage.

D. Key relationships

1. **Parallel keys**: scales with the same tonics. A move from major mode to minor (or the reverse) is really called **change of mode** or **mutation** rather than modulation; in fact, most people say that this sort of change *is not* a modulation. Examples: C major and c minor, D major and d minor.
2. **Closely-related keys** (also called **near-related**): These are keys with the same key signature or with one accidental more or less in the key signature. Another way to think of it: These are keys that are adjacent on the circle of fifths.

Examples: C Major is closely-related to D minor, E minor, F Major, G Major, and A minor.

C minor is closely-related to E \flat Major, F minor, G minor, A \flat Major, and B \flat Major.

Shortcuts: To calculate the closely-related keys to some **major** key, think ii iii IV V vi.

To calculate the closely-related keys to some **minor** key, think III iv v VI \flat VII.

Note that near-related keys include **relative** major and minor keys (for example, C Major and A minor, or E minor and G Major). In these cases, relative is the better, more specific identification.

3. **Distantly-related keys**: keys that aren't closely-related (key signatures over one accidental apart).
 - Technically, then, parallel major and minor keys are distant-related, but of course they hold a special relationship. In these cases, parallel is the better, more specific identification.
 - Another special type is the **chromatic third relationship**: two keys a major or minor third apart, where the tonic triads of the two keys have only one or no notes in common. Example: C Major is in a chromatic third relationship with E \flat Major, E \flat minor, E Major, A Major, A \flat Major, and A \flat minor. Chromatic third related keys are more common in nineteenth-century music than in earlier styles.

See also the pages on “the universe of keys,” third-related keys, and key relationship diagrams.

E. How did the music change keys? What *modulation process* is evident?

There are numerous processes by which a change of key may take place. These include common chord modulation, chromatic inflection, direct modulation, monophonic modulation, common tone modulation, and sequential modulation. These are described in some detail over the next few pages.

1. **Common chord modulation**—also called **pivot chord modulation**. Most modulations are made smoother by using one or more chords that are common to both keys as an intersection or connection between them. Common chords typically function as a diatonic triad (occasionally seventh chord) in both keys. The common chord has **exactly the same spelling** in both keys, but has a *different* Roman numeral function in each key.

Put differently, the common chord creates a **harmonic link** between the two keys. The example shown below modulates from D Major to A Major; on the second beat of m. 2, the vi chord in D major functions simultaneously as a ii chord in A major.

D: I IV I₄⁶ V I vi |
 A: ii I₄⁶ V I ii₅⁶ I₄⁶ V I

There are many ways in which the example shown above is typical:

- Common chord modulations often take place *within* a phrase.
- Note the symbol used to show the common chord modulation. Learn to use this symbol.
- Notice how the first key is clearly established (first five chords), the move to the second key takes place (common chord plus the three chords after it), then the second key also is confirmed (final five chords).
- The common chord will often function as a *pre-dominant* chord in the new key (for example, IV or ii). That way, the music can move on to the dominant and tonic of the new key, thus pushing clearly into the new key.
- It may be that common chords are more often unaccented than accented.
- Note that hearing the common chord is a *retrospective process*. In the example above, you do not know that the common chord is taking on its new function (as ii in A Major) until you hear the chords *after* the common chord, which “tell you” that the modulation has taken place.

More information about common chord modulation:

- Six-four chords are not effective common chords.
- In general, avoid secondary dominants as common chords. Secondary dominants and diminished sevenths as apparent common chords are usually best described as other types of modulation (see below).

When analyzing, here’s how to find the common chord:

- First, find the “signal” accidental (often, it’s the leading tone of the new key).
- Then, look at the chord immediately before the signal to see if it is common between the two keys.
- If this chord is unsuitable or unstable (i.e., a six-four chord or secondary dominant), then check the preceding chord as a possible common chord.

2. **Chromatic inflection**—some simply call this **chromatic modulation**. This rather rare modulation process involves the chromatic alteration of a note in a single voice (for example, F becomes F \sharp , or D \flat becomes D \sharp). The chromatic alteration usually involves the introduction of the new leading tone; as a result, it's often related to the abrupt introduction of the dominant chord of the new key. May occur within or between phrases, though it occurs more often within the phrase.

In the example shown below, the initial key of G Major is established, then the *new leading tone* in the new key of D Major (the C \sharp) is introduced in the bass voice. The key of D Major is then confirmed.

G: I V $\frac{6}{5}$ I - \flat ii \flat D: V $\frac{6}{5}$ I ii \flat I $\frac{6}{4}$ V $\frac{7}{4}$ I

Note carefully that in the example above, a simple common chord interpretation doesn't satisfactorily explain the change of key. Chromatic inflection occurs *only* when there is *no available common chord*.

3. **Phrase modulation**—sometimes called **direct modulation** or **tonal shift**. This type of modulation usually takes place *between* phrases or sections; some don't consider it to be a true modulation because it isn't really a *process*. There usually will be no apparent common chord nor any type of exposed common tone to connect the two keys.

Put differently, a phrase modulation is a type of **formal link** between two keys. In the example shown below, Schubert elects to shift directly from D minor (mm. 1-4) to A minor (mm. 5-8). It takes place *between* the two phrases. Here, a common chord interpretation is theoretically *possible* (the tonic chord in D minor becoming a iv chord in A minor), but the change between phrases and the dramatic changes in dynamics, range, and texture all point to a rather phrase modulation from D minor to A minor.

d: i V $\frac{7}{4}$ i V $\frac{7}{4}$ i a: i V $\frac{7}{4}$ i

4. **Monophonic modulation.** A change of key occurs during a *single moving melodic line* that appears without accompaniment. In the example shown below, the melody at the beginning of the second phrase introduces the new leading tone and pulls into the dominant key. The new key is confirmed at the end of the second phrase.



6. Sequential modulation—also sometimes called **modulating sequence**.

- We will let examples from the anthology suffice here (no example given in this handout).
- Here, some *harmonic pattern* or set of Roman numeral functions is repeated in a sequential manner in several different keys.
- There almost always is a sequential pattern in the melody as well.
- A sequential modulation can occur *between* phrases, almost like a phrase modulation, or it sometimes can occur *within* the phrase and include a common chord of some kind (this is subtler).
- A sequential modulation differs from a phrase modulation because a sequential modulation consists of the **same harmonic/melodic pattern** used in different keys.
- Sequential modulations most frequently occur in Baroque music or within the development section of Classical or Romantic movements in sonata form.

Here are some things to think about/look for:

- the **specific pattern** used;
- the number of times the sequence is used;
- the keys;
- the interval of the sequence (i.e., how far apart the keys are); and
- try to consider where the pattern is taking you in terms of overall, larger-scale tonality.

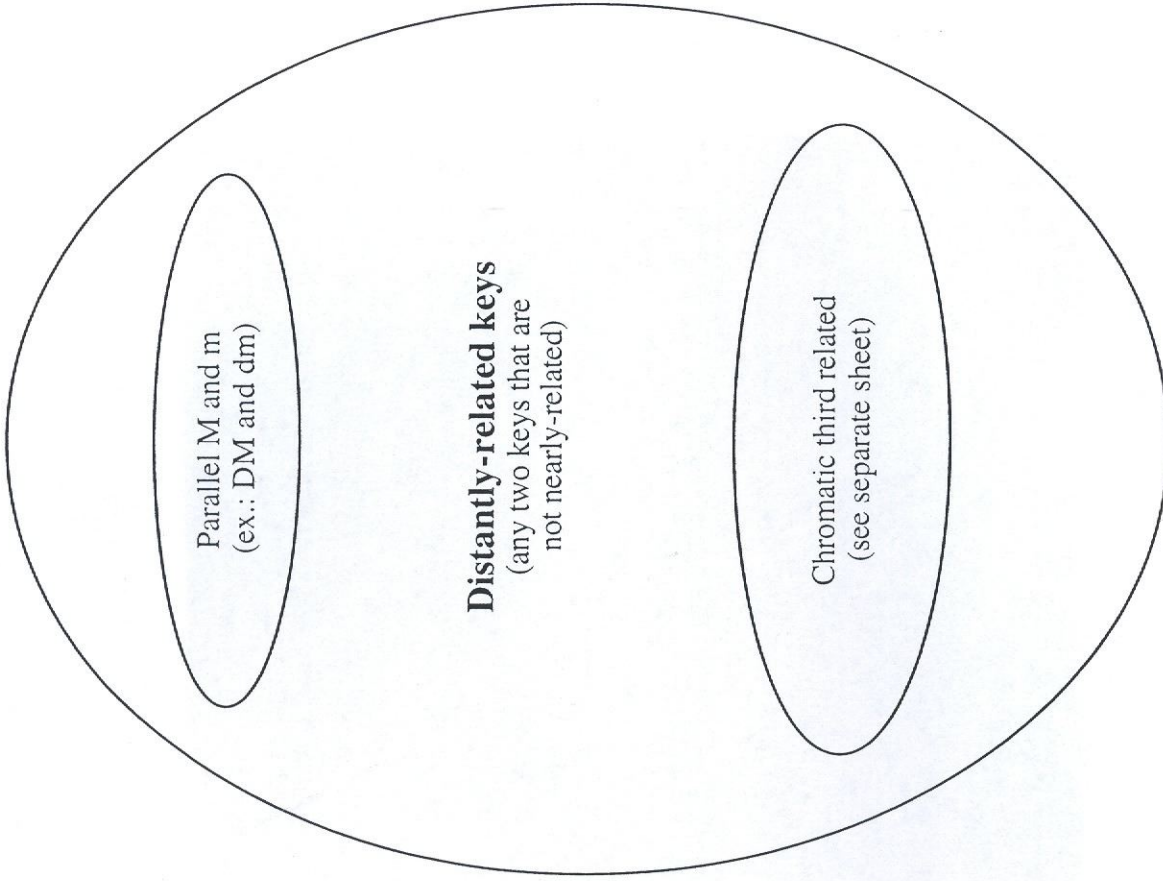
7. A word or two about *enharmonic respellings*:

In general, simply calling a change of key an “enharmonic modulation” is insufficient data. A description such as this should go on to say what is being enharmonically respelled—an enharmonically reinterpreted common tone or common chord, for example. Occasionally in this course we will encounter enharmonically reinterpreted common tones or keys whose relationship might involve some enharmonic thinking, but in general enharmonically reinterpreted common chords are a more advanced topic that will be covered in a later course.

F. Final (but important) hints and reminders

1. **Remember** that major keys will often modulate to the dominant, minor keys to the relative major.
2. Remember, too, that you **won't** see a new key signature every time the key changes.
3. When **writing** some sort of modulation, the important thing is to **establish** both keys through stock progressions such as I V $\frac{3}{4}$ I $\frac{6}{4}$ IV I $\frac{6}{4}$ V $\frac{7}{4}$ I or I vi IV ii V $\frac{7}{4}$ I (and so forth). These progressions may of course be embellished with secondary dominants. Think of a three-step process:
 - **Establish** the original key;
 - **Make the connection** (say, with a common chord); then
 - **Confirm** (or, **establish**) the new key.
4. **Hearing modulations**:
 - **THINK** about potential key relationships. Use common sense and develop stylistic savvy.
 - **Listen** to the intervallic relationship between the keys.
 - Listen to the **mode** (major or minor) of the new key
 - Focus **especially** on the area where the actual change of key occurs.
 - Use formal boundaries to help. If a passage is repeated, compare where the music ended (the first time through) with where it began (listen *really carefully* as the music moves back for the repeat).
 - Remember that hearing modulation is often a retrospective process—after it takes place you say, “hey—we’re in a new key—how did we get there?”

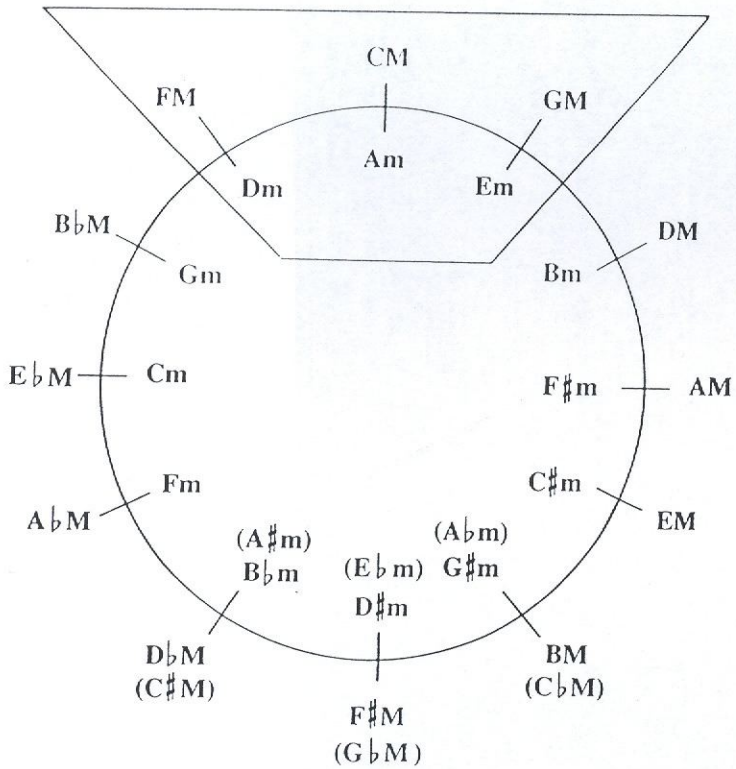
The universe of keys



Enharmonic keys
(ex.: F#M and GbM)

Key relationship diagrams

Here are several diagrams that might prove useful when thinking about closely-related keys. We will discuss them in class.



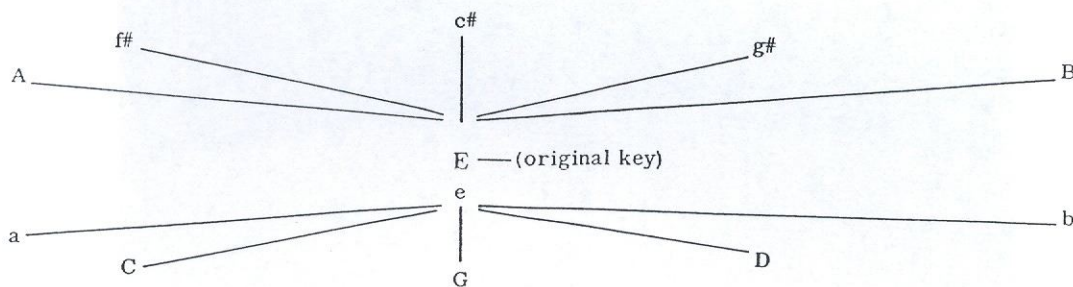
Starting Key: C major		
1#	G	e
0#, 0b	(C)	a
1b	F	d

Starting Key: c minor		
2b	g	Bb
3b	(c)	Eb
4b	f	Ab

Starting Key: C major		
Dominant	G	e
Tonic	(C)	a
Subdominant	F	d

Starting Key: c minor		
Dominant	g	Bb
Tonic	(c)	Eb
Subdominant	f	Ab

Here's a diagram that demonstrates the power of change of mode. E Major has five closely-related keys; a move to the parallel minor (E minor) opens up a world of five additional closely-related keys.

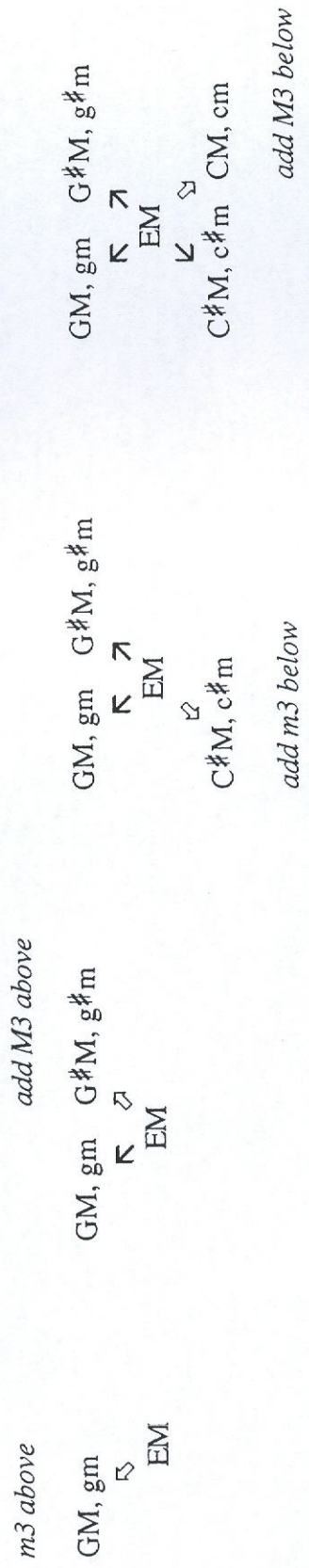


Third-related keys

- Any given key will have eight keys which are third-related to it.
- Of those eight, two will be near-related (in fact, one of those two is the relative).
- The remaining six keys are **chromatic third-related** to the original key.
- Chromatic third-related keys are a special type of distant key relationship. They became particularly popular during the 19th century. Composers such as Beethoven, Schubert, Schumann, Brahms, Liszt, and Wagner sometimes make use of this relationship.
- **Chromatic third-related keys defined:** any two keys whose tonics are a m3 or M3 apart and whose tonic triads have only one or zero notes in common are said to be chromatic third-related. Incidentally, those whose tonic triads have one note in common are seen more frequently than those where there are zero notes in common.

Method for finding chromatic third-related keys: moving slowly and systematically, make a little table of all the keys whose tonics are a m3 and M3 both above and below the original key. Then, eliminate the two near-related keys, and you are left with the six chromatic third-related keys.

Example (here, the original key is E Major):



- On the far right above, you can see the eight keys which are third-related to E Major. The final step: eliminate the two which are near-related (g#m and c#m), and you are left with the six keys which are chromatic third-related to E Major.

How might a composer connect two chromatic third-related keys?

Since they have no diatonic common chords, composers have to resort to other types of modulation. The two most common:

- *common tone modulation* — for example, one could connect EM and CM by using the common tone E.
- *mode mixture (borrowed chords)* — for example, one could connect EM and CM by using an A minor triad. It would be the borrowed iv chord in the key of E Major; it would be a vi chord in the key of C Major, and one could use this triad as a common chord and move smoothly on into C Major (say, the following progression: vi - IV - V - I).

One last fact: occasionally two keys which do not look chromatic third-related might actually be so, but one might be enharmonically respelled for the ease of the performer. Example: E Major and A \flat Major are enharmonic chromatic third-related (A \flat Major would be an enharmonic respelling of G# Major, done so for the ease of the performer).