

Recognizing Key Signatures

Music Fundamentals

14-119-T

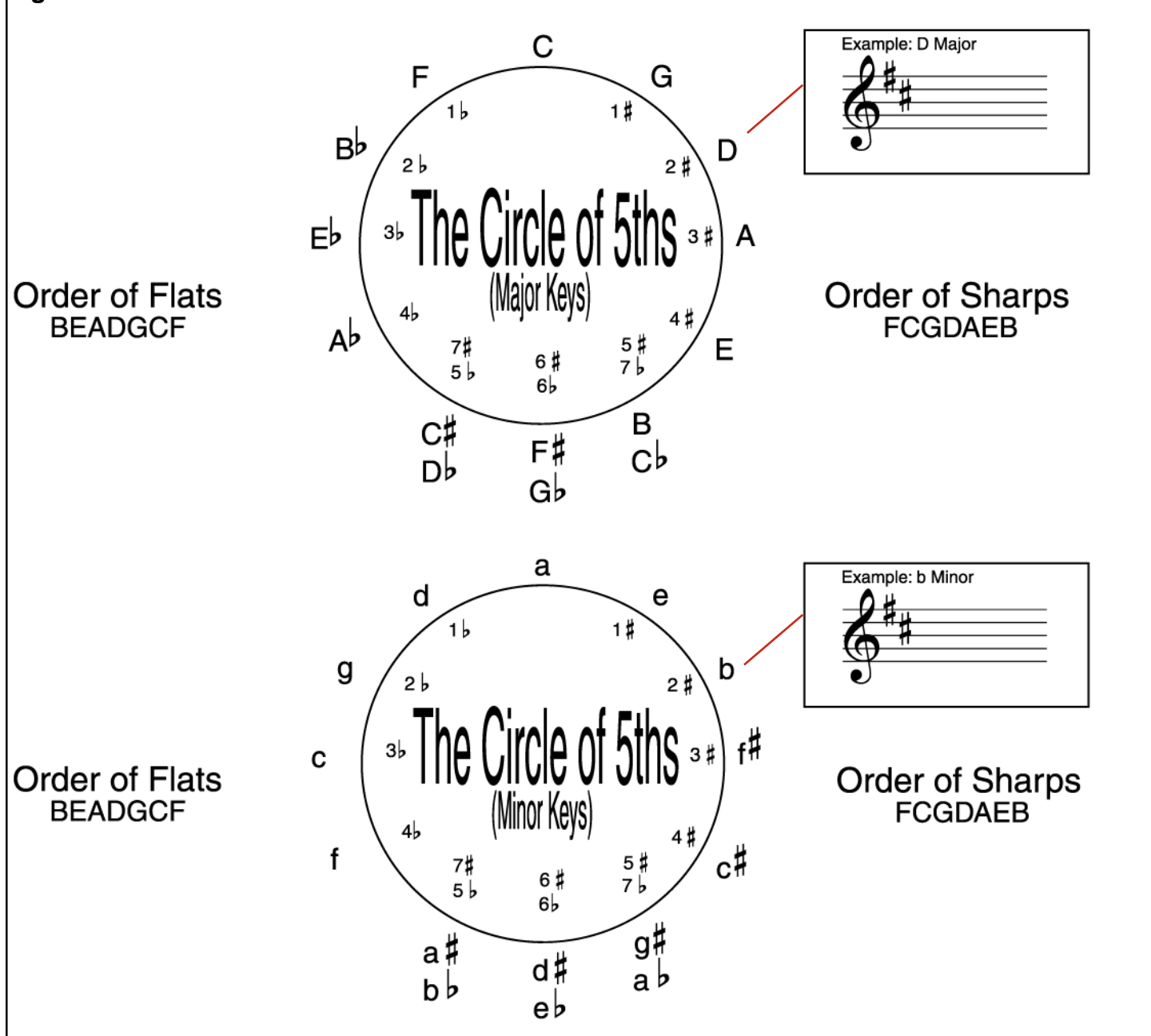
Constructing the Key Signature:

In the last lecture, we connected scales and tonality. We also found that in order to alleviate the labor of writing accidentals, *key signatures* were created. To review, key signatures are placed immediately after a clef, and they indicate what accidentals are needed throughout a composition, thus those accidentals would not have to be written next to a note in the music [see Figure 1]. Any note that does not have an accidental is considered natural. Key signatures will have either all sharps or all flats. Key signatures with both sharps and flats do not exist.

Figure 1



Figure 2



The Circle of 5ths:

One of the easiest ways of recognizing key signatures is by using the circle of 5ths [see Figure 2]. To begin, we must simply memorize the key signature without any flats or sharps. For a major key, this is C-major and for a minor key, A-minor. After that, we can figure out the key signature by following the diagram in Figure 2. By adding one sharp, the key signature moves up a perfect 5th from what preceded it. Therefore, since C-major has not sharps or flats, by adding one sharp to the key signature, we find G-major (G is a perfect 5th above C). You can see this by moving clockwise around the circle of 5ths.

For key signatures with flats, we move counter-clockwise around the circle. Since we are moving “backwards,” it makes sense that by adding one flat, the key signature is a perfect 5th below from what preceded it. As we can see, one flat indicates F Major, or a perfect 5th below C.

There is also a circle of 5ths for minor keys. Also seen in figure 2, this diagram works exactly like the circle of 5ths for major keys. Note, however, that instead of starting on C, we begin at the top of the circle with A, or a minor 3rd below C. As we can see, a key signature can either indicate a major key or a minor key. The tonics that a key signature represents are said to be *relative*. As an example, if we look at the circle of 5ths for major and minor, we can see that a key signature with one sharp will be either G major or E minor. Therefore, the relative minor of G major is E minor, and obviously, the relative major of E minor is G major. All relative major and minor keys are separated by a minor 3rd (where the minor key is a minor 3rd below the major key).

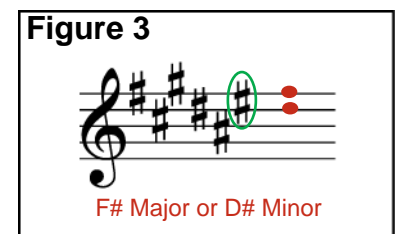
Order of Sharps and Flats:

Key signatures follow a specific method for construction. You may be wondering what sharp would be in the key of G. The answer is actually quite simple since there is an order of sharps and an order of flats for key signatures [see Figure 2]. Therefore for the key of G-major, the one sharp in the key signature will be a sharp placed on the F line. Therefore, to play a G-major scale, one would play G,A,B,C,D,E,F#,G. Note that the intervallic construction of this scale follows what we learned in the previous lecture. For D-major, there will be two sharps: F# and C#. Accidentals are added in order for a maximum number of seven sharps and seven flats. When we consider both major and minor mode, we find that there are only 28 different key signatures.

For clarification, we will never have a key signature with just a C#, or an Eb. The first sharp that is added will always be an F#, the second sharp will always be a C#, etc. Likewise, the first flat added in a key signature will always be a Bb. It is interesting to note that the order of sharps move by perfect 5^{ths} (F up to C, C up to G, etc.). Also note that the order of flats is simply the retrograde of the order of sharps.

Quick Recognition:

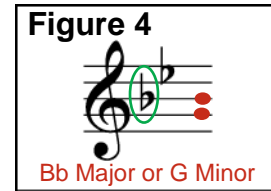
There are many ways to recognize key signatures. One way is to simply memorize the circle of 5ths. Most musicians simply recognize key signatures just like you are beginning to recognize pitches on a staff, or the way you are reading this lecture. They simply know what the key is by looking at it.



However, to begin building your proficiency, it will be helpful to have some shortcuts. To find the

major key with key signatures with sharps, look at the last sharp. This last sharp is called the leading-tone, or the 7th scale degree [see Figure 3]. Therefore, the key will be a minor 2nd above the last sharp, or the next line or space above the last sharp. Be careful, however, that you take into account whether this note has already been sharped. For example, in the key of F# major, the last sharp is E#; however the key is not F-natural, but F-sharp since the F has already been sharped by the first accidental in the key signature.

To find the major key with flats in the key signature, simply look at the penultimate flat for the tonic. For this method to work, you must memorize that the key of F has one flat. After that, you can see that the method works [see Figure 4]. As with sharp key signatures remember that all major keys, with the exception of F, will be flat if the key signature has flats. As in figure 4, the key is Bb, not B-natural simply because there is a Bb in the key signature!



For minor keys with sharps in the key signature, look at the last sharp and move down the line or space. Therefore, figure 3 is in the key of D# minor. Another way to think about it is that the last sharp is the 2nd scale degree, or a major second above the tonic. As before, since there is a D# in the key signature, the key will be D# and not D-natural.

Just as we must memorize that one flat in a key signature is F major, we must also remember that one flat can also be D minor. After that, we can follow the shortcut of looking at the penultimate flat and looking down a line and a space if the penultimate flat is in a space, or a space and a line if the penultimate accidental is on a line. In other words, the tonic of a minor key will always be a minor 3rd below the penultimate accidental. Thus, in figure 4, the minor key is G minor.

Conclusion:

Just as we found when we began to read notes on a staff, this recognizing new material takes time and practice. Before long, you will be able to recognize key signatures just as you are beginning to recognize notes on a staff.