#### MODULATION: PIVOT CHORDS

APPLICATIONS OF THE HARMONIC WHEEL

# CONTENTS

- The Modulation consists in changing from one Key to another.
- To do that, it is common to use a **Pivot Chord**, which is a chord that belongs to both keys, and then the new key is affirmed by a **Cadence**, which may consist, simply, in the chords V7 I.
- In this presentation, an explanation is given on how to obtain the pivot chords between two keys, using the Harmonic Wheel.
- For the sake of simplicity, only consonant pivot chords are considered, that is, Major or minor.

# CHORDS OF A GIVEN KEY

- Every Major or natural minor key contains 6 consonant chords: 3 Major and 3 minor.
- On the Harmonic Wheel, these 6 chords are inside a curved rectangle and they are placed taking into account their affinity.
- For example, in the C Major / A minor key these 6 chords appear in the following arrangement:

Dm	Am	Em
F	С	G

#### CHORDS OF A GIVEN KEY



# CHORDS OF A GIVEN KEY

- Remember that the scale tonic is indicated with and the rest of the notes with .
- Traditionally, the modulation is studied with the aid of the cycle of fifths, where the keys are sorted according to their key signatures.
- On its own, the Harmonic Wheel is a much more complete representation than a cycle of fifths, since it gives a panoramic view of chords and keys, as well as the existing relationships among them.

- Suppose that we modulate from C Major to G Major and want to know the pivot chords, that is, the chords common to both keys.
- The common practice is to keep to the following procedure:
- 1) To write the notes of the C Major scale and superimpose 2 thirds on each of them.
- 2) To do the same with the G Major scale, but starting this scale with note C.
- 3) To find the chords common to the two keys.

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□ Chords of C Major and G Major:



Now, we have to see which of these chords are common to the two keys.

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□ Chords common to C Major and G Major:



- However, the Harmonic Wheel gives us a much more simple procedure.
- On it, we observe that tonic G is placed one position away to the right of tonic C, so the chords of G Major will also be one position away to the right of those of C Major.
- In the next figures, the C Major scale has been represented in dark blue, while G Major scale has been represented in light blue. Rapidly, we see that the pivot chords are: Am C Em G.





- If we now want to modulate from C Major to D Major, we again have two procedures:
- The common one, which consists in writing the two scales, superimposing thirds and comparing the resulting chords.
- By means of the Harmonic Wheel, by simply observing that tonic D is placed two positions away to the right of tonic C, so the chords of D Major will also be two positions away to the right of those of C Major.



#### Common procedure:

C Major



Now, we have to see which of these chords are common to the two keys.

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Chords common to C Major and D Major:



#### With the Harmonic Wheel, it is much simpler:



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# MODULATION TOWARDS THE FLATS

- Let us now see two examples of modulation towards the flat region, by using the Harmonic Wheel:
- Modulation from C Major to F Major. In the next two figures, it is clearly seen that the pivot chords are: Dm F Am C.
- Modulation from C Major to Bb Major. As can be seen in the figure following the previous ones, the pivot chords are: Dm F.







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- Finally, let us consider a more complicated example: the modulation from Db Major to B Major.
- □ As can be seen in the next figure, finding the pivot chords with the traditional method is not easy at all.
- However, we rapidly find the solution by using the Harmonic Wheel:

E♭m G♭

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Traditional procedure:

D**b** Major



#### B Major



Finding the pivot chords in this representation is not easy at all. But in the Harmonic Wheel, it is:

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# FINAL CONSIDERATIONS

- Additionally, the Harmonic Wheel allows us to easily check that "if two keys are more than 2 accidentals apart, there is not any consonant pivot chord". This is what occurs, for instance, when going from C Major to A Major or to Eb Major.
- This statement, however, is difficult to prove by writing chords on a staff.
- In these cases, we need other procedures to modulate.
  For example, using the Neapolitan sixth chord, altered scales, deceptive cadences, etc.

# FINAL CONSIDERATIONS

- All these modulation procedures correspond to the so called Diatonic Modulation.
- But there exist, in addition, the so called Chromatic and Enharmonic modulations.
- As the harmonic and melodic minor scales are also represented on the Harmonic Wheel, and the relationships between chords and keys are always shown as well, the use of the Harmonic Wheel makes it much easier to study any kind of modulation.