

## Guide to chord analysis: playing through the changes

Amongst other challenges, a great difficulty that is often confronted by students of improv is discerning when and how to utilize the changes of a given piece of music. Where do I start? What chords are most important? What notes present tension? How do I find them? In what follows we will develop a method which one can use to answer these questions. For this we will start with a 4-step process in analyzing chord changes.

1. **Find all the Common Progressions in the Piece:** What we are trying to do when analyzing chords and harmony is to find what notes of what chords are the most outstanding; the most colorful. We do this because those notes will bring out the character of the song unlike any others that surround it. That being the case, we want to first find the diatonic chords and chord sequences of the song we are playing to be able to discern which notes are the strongest and most meaningful, and which of those are the weakest or most common. With exception of the 3<sup>rds</sup> and 7s associated with a given chord, the diatonic notes, that is, the notes that are common to the key or the song will be the weakest. These notes will be the bedrock of the harmony, the foundation, not the ones that will stand out as most colorful or those that will present much tension or curiosity. The idea of playing through the chord changes is to find places where you can embellish on the harmony, add some tension and release, play some tones that will lead into others in a musical way. In such a case, it is of greater importance to us to find the chords (and/or notes) that are **not** strictly harmonious with the key that we are playing in but slightly outside of it. Since we are dealing with jazz, the most common chord progression or sequence is the ii V I (2 5 1). The ii V I chord sequence is derived from the chord-scale of the key that we are in. So, for instance, if we are in the key of C, the ii V I chord sequence would be Dm7 G7 Cmaj7, since the ii of the key is (D), the V (G), and the I (C). So, we derived the notes from the scale degrees within the key of C e.g.

1	2	3	4	5	6	7	8
C	D	E	F	G	A	B	C

But how did we know that the ii was a **minor** cord, the V **dominant**, and the I **major**? Well, we'd know this from knowing that if you harmonize each note of the scale with the notes that are in it, in thirds, effectively making them three note chords or **triads** instead of single notes, that each degree (or note) of the scale will have a **fixed** cord quality just by happenstance. So, the **ii** of a major scale is always a **minor**, the **V** always a **dominant**, and the **I** always a **major**. This is called a **chord -scale sequence**. Since the chord scale sequence of a given scale is fixed, we can enumerate each scale degree and give that degree a chord quality. The chord scale sequence of a major scale is illustrated below.

Fig.1

**Major Chord Scale Sequence:**

**1 2 3 4 5 6 7 8**  
**Maj min min maj Maj/dom min dim maj**

Since the sequence is constant, we can identify a pattern and commit it to memory. In the case of the major scale, every major scale has **3 major** chords, **3 minor** chords, **1 dominant**, and **1 diminished** chord in its natural form. Now if we take this sequence and apply it to the C major scale, we will have the following chords:

**1 2 3 4 5 6 7 8**  
**Cmaj(7) Dmin(7) Emin(7) Fmaj(7) G7 Amin(7) Bdim(7) Cmaj(7)**

- 2. Find the outlying cords:** In heed of simplifying the process of finding the outlying notes we must first find all the ii V I and ii V sequences in the piece.<sup>1</sup> We do this because, as we have found from the above, the ii V I sequence is common to the C scale or whatever key we are playing in. That being the case we can bracket these sequences and all other chords that are diatonic (or directly related to the key) as they already fall under the harmony naturally. Thus, there is nothing particularly interesting about them. They are the notes that are the most common. We want to find the notes that are the least common because those will supply the most interesting contrast. The notes of the key of the song, in this case the notes of C major, can be seen as the base of the song or harmony, and the outlying notes and chords the alterations to that harmony or base. So, after we have found the main chord sequences throughout the song lets now focus on trying to find what chords are outside of the natural key we are playing in. This will become more obvious as you get better acquainted with your chord-scales. If we take the first 8 bars of a classic swing tune like moonglow, we will see that there are a couple chords that are outside of the natural key of C. These chords are:

**Fm D7 Cdim Bb7 B7 C7**

**Moonglow**  
 By Eddie De Lange, Irving Mills, Will Hudson  
 Transcribed by Philip Jackson

<sup>1</sup> Often times the ii V I sequence will only appear in a song as a ii V with the I chord implied. Keep this in mind when you are search through a piece of music.

If we look back at the C major Chord Scale in **Step 1**, we see that none of these chords fit in the natural key of C since **F** is a **major** chord in **C**, not a minor. **D** is a **minor** chord in, **C** not a dominant. **C** in the key of C is a **major** not a diminished, the note **Bb** is not even in the scale, **B** is a diminished in the key of **C** not a dominant and C in the Key of C, again, is a **major** not a dominant. So, while all these notes (with exception of the **Bb**) are all in the key of C, the **notes that define their quality are not**. Now does that mean that the author of the music made a mistake. Not quite, just because the notes in these chords do not align with the C major scale doesn't exclude the possibility that there might be ways that we can alter the C major scale to compliment these chords nor does it mean that such a sequence might not sound good. What we can tell from this is that the author has done some interesting things with the harmony that will be worth our attention given the fact that these chord qualities are outside the key of C, they will likely introduce some interesting colors.

- 3. Find the Outlying Notes within the Outlying Chords:** As per **Step 2** we found the outlying chords but that in-and-of-itself does not give us enough information unless we go a bit further and break down or **arpeggiate** those chords as to find what notes make those chords unique from the C scale. Let us start with **Fm**. We know the note **F** is in the key of C but if we harmonize the note **F** with the key of C respectively making it a three-note chord, we get a major chord not a minor. Now we must ask what makes the **F** minor and not major? What is the variation in notes? Let us break the chord down and see.

**F major** = F A C    **F minor** = F Ab C

So, as can be seen from the above, the only note that separates a major chord from a minor is the **third**, in which case the third is a **flat third** in a **minor chord**. So, Ab would be our outlying note; the note of which is not in the key of C but in the chord **Fm** that will directly contrast the scale of C major thereby giving us a color note to target when the chord **Fm** comes up. If we apply this process to the rest of the outlying chords, we listed in **Step 2** we will come up with the following outlying notes:

**Fig.2**      Uncommon Notes within the uncommon Chords

**Fm** = Ab    **D7** =F#    **Cdim** = Eb    **Bb7**= Bb    **B7** = Eb    **C7** = Bb<sup>1</sup>

- 4. Relating the outlying notes to Scales and Modes Relative to C major:**

From **step 3** we have derived the outlying notes from each of the outlying chords in the first 8 measures of Moonglow. Now the question is how do we use them? Well in general you can use them any way you want to, though the most common

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<sup>1</sup> For the sake of simplicity I have only expressed one outlying note per chord though there can be more, as in the case for Bb7 there is a Bb and/ or an Ab that could be used to distinguish its characteristics when playing over the chord

approach would be to use them as target notes as you are improvising over the measures where an outlying chord comes up. So, where a Cdim comes up you will incorporate an Eb in our phrase. It is important to remember, however, that we are not just trying to match notes with chords, rather we are trying to make music that complements the harmony of the song we are playing. That being said, it behooves the improviser to keep in mind that all of these notes are not just outlying tension notes, they also have a certain sound and a certain feeling. This can be better realized if we relate these notes to the modes of the C scale. That's right... the notes that we derived from the outlying chords aren't just random notes, they actually do have something to do with the key of C and getting familiar with the scales and modes these notes come from will give you a better idea of how and when to use them as they all have a certain *color*. So, the author was not just picking random chords that were outside of the key of C but they actually relate to different forms of the C Scale. I will list the correlations below:

**Fm:** The **Ab/G#** that comes from the Fm gives us a **C major** scale with a **#5**. A major scale with an added 5# is known as the **Bebop scale**.

**D7:** The **F#** coming from the **D7 chord** gives us a **C major** scale with a **#4**. A major scale with a sharp 4<sup>th</sup> is known as a **Lydian mode**.

**Cdim, Bb7, B7, C7:** The **Eb** and **Bb** from these chords gives us a **C minor pentatonic** which is close to the **C blues scale**. The C minor Pentatonic is **C Eb F G Bb**. **C blues** adds a flat 5 often used as a grace note **C Eb F Gb G Bb**

So here we see that the 6 outlying chords of the song produce **3 different types of C scales** for us to utilize when improvising over this tune. The **C Bebop Scale** (C Major with an add #5 (G#), The **C Lydian mode** (C major with an F# instead of F Natural), and a **C minor Pentatonic**. Now, again the way to be most effective is to get a sense of what you like to hear as a listener and as a player being that these scales all have a different sound to them. For instance, the **G#** in the **bebop scale** gives it more of a ragtime or gypsy type of color. The **#4** in the **Lydian mode** gives it a **dreamy/floaty** type sound. The **Pentatonic minor** gives us a **bluesy color**. Also, you don't have to look at these outliers as three different scales. That is just another way of looking at it. I presented this perspective because having a few different views on how this all comes together can help one visualize what is going on. People also vary in the ways that they process information so looking at the notes as single outlying notes rather than notes that correspond to different types of C scales might be a helpful way of looking at it for some but not for others. There are essentially three ways one can conceptualize the outlying notes. **1)** as single notes relative to the outlying chord they come from. **2)** As notes relative to different C Scales.

3) As chromatic notes placed between the notes of the C major scale (See Fig.3).

**Fig.3**

<b>C Major Scale:</b>	C	D	E	F	G	A	B	C
<b>Outlying notes</b>			E $\flat$		F $\sharp$ /G $\flat$	G $\sharp$		B $\flat$
<b>Displayed as</b>								
<b>Chromatic Notes</b>								
<b>In between the</b>								
<b>C Scale</b>								

Being able to conceptualize this in all three ways will give the improviser the deepest perspective, as each outlook will give the player a different perspective in which to approach playing in and around these changes. There is no wrong way to play them, just make it sound good... A great way to construct an interesting line, however, is to play a phrase then play that same phrase with the alteration of one of the outlying scales. That is a good way for you and the listener to hear the obvious difference in tonality.