

# Organic Harmony and Changing Tones

by Chris Fitzgerald

Definitions of the term “Organic” from the Oxford English Dictionary:

**organic** | ôr'ganik |

adjective

**1** relating to or derived from living matter: *organic soils*.

- *Chemistry* relating to or denoting compounds containing carbon (other than simple binary compounds and salts) and chiefly or ultimately of biological origin. Compare with inorganic.

**2** (of food or farming methods) produced or involving production without the use of chemical fertilizers, pesticides, or other artificial agents.

**3** *Physiology* relating to a bodily organ or organs.

- *Medicine* (of a disease) affecting the structure of an organ.

**4** denoting a relation between elements of something such that they fit together harmoniously as necessary parts of a whole: *the organic unity of the integral work of art*.

- characterized by continuous or natural development: *companies expand as much by acquisition as by organic growth*.

## Introduction

At this point in history, jazz education is common and resources to learn more about jazz theory and practice are plentiful and easily accessible. But have you ever wondered how great jazz musicians learned to play before such resources existed? We've probably all heard apocryphal stories of jazz greats wearing out the grooves of the vinyl records they were trying to emulate, or practicing 10-16 hours a day as they learned their craft. This explains a lot about how they became great, but what was going on in their minds as they absorbed and taught themselves the language of jazz? How did the sounds they were imitating and the harmonic language they were absorbing organize themselves in their brains?

No one knows the answer to these questions. But brain research suggests that when presented with the unknown, the human brain automatically tries to find order in it. This happens both consciously and subconsciously, and it can be difficult to untangle the two paths even to the person who experienced that search for order. Further from the source, music theorists attempt after the fact to try to describe what is going on in music that has already happened. But in spite of the first axiom of music theory – that “music theory is *descriptive*, not *prescriptive*” – many descriptions of past music end up getting understood as prescriptions for making music in the future. And arguably, approaching a flow experience like melodic creation and improvisation from a primarily theoretical and analytical perspective can often be counterproductive and make the whole endeavor seem more intellectual and complicated than it might otherwise be.

In today's presentation, “Organic Harmony and Changing Tones”, I will attempt to lay out, after over 40 years of playing improvised music, the way I understand my brain to have subconsciously mapped out the issues of jazz harmony and improvising melodies over harmonic progressions. The results of this process sometimes conflicted with the jazz theory training I encountered in the educational world, and although these conflicts usually amounted to small differences in note choices, getting to the bottom of them always seemed important. To me, music theory was not a recipe to follow in order to create music (although it arguably can be that), but rather a way to consciously understand and express the way my brain subconsciously and intuitively processed and understood the music I already loved. I offer these results here not as “the truth” or an attempt to discredit other ways of approaching the subject at hand, but rather as an alternative way of looking at the same issues for anyone who might find it useful. With that said, let's begin.

First off, what does the term “Organic Harmony” mean? There are many different definitions of the word “organic”, but the one that led me to use the term for this approach to harmony comes from the Oxford dictionary:

**organic** | ôr'ganik |

adjective

**4 denoting a relation between elements of something such that they fit together harmoniously as necessary parts of a whole: the organic unity of the integral work of art.**

Once we have all made the requisite jokes about “cage free, grain-fed, free range harmony with no antibiotics, ever”, the above definition, when applied to harmony, could be simplified as *contextual harmony*; in other words, as always looking at each chord and the notes between the chord tones in context of the other chords around it rather than as in a chord in isolation. This is important because the same chord name often functions differently depending on its context.

A simple example of this would be the difference between an Fma7 chord in the context of a progression in F Major versus the same chord in a C Major progression. The chord tones for both chords, when taken literally, will be exactly the same. The notes between the chords, however, exist within the greater key center, so the most *organic* implied 4<sup>th</sup> degree above the root of that Fma7 chord would be a Bb in the Key of F major, but a B natural in the key of C major.



Another simple example might be the difference between an A-7 chord in a progression in G major versus the same chord appearing in a progression in C major. In G major, the *organic* implied 6<sup>th</sup> degree above the root of the A-7 chord would be an F#, but in C major, the implied 6<sup>th</sup> would be an F natural.





These are just two simple examples, but they represent two instances where my intuitive understanding of the question “*what are the notes between the chord tones?*” clashed with my early training in jazz education that told me “see a major7 chord, build a major scale from the same root”, or “see a minor7 chord, build a Dorian minor scale from the same root”; in both cases, my ear naturally wanted to hear the chords in context, and I initially became confused when what I was taught didn’t match what I was hearing.

In addition to this, the notion of switching scale roots literally every measure in the harmony seemed counterintuitive to the information I was getting in the melody. Let’s compare two opposing ways of viewing several common progressions.

### Musical Examples

Let’s begin by taking a look at the first 8 bars of the well-known standard “All Of Me”. Our first issue with analyzing harmony is deciding which version of the chord changes to use, and how literally to take the chord symbols of the version we decide to use. Since jazz harmony is not standardized, and since the sources of lead sheets developed independently of each other, looking at different versions produces different versions of the chord changes, as in the example below.

Key:  
 iReal/NRB = iReal Pro and New Real Book  
 JFB = Jazz Fake Book  
 JA = Jamey Aebersold, Vol. 59  
 RB = Real Book

iREAL/NRB	CΔ7		E7		A7		D-7	
JFB	C		E7		A7		DM7	
JA	CΔ		B-7	E7	A7	E-7	A7	D-7
RB	CMA7	↔	E7	↔	A7	↔	D-	↔

In this case, the differences are mostly superficial, so let’s go with the simplest version at the top. Notice that no alterations of the two dominant chords are given. If we take the chord symbols at face value – as Mixolydian scales, as one school of jazz theory would suggest - we would end up with “chord scales” that look like the following:

C<sup>Δ7</sup>                      E7                      A7                      D-7

I know plenty of accomplished improvisers who play from this paradigm today, so this approach is not wrong. But when I was first learning this song and plugging in chord scales to match the chord symbols, my intuition balked at some of the notes between the chord tones this approach suggested. Specifically, my ear didn't naturally accept the F# and C# in the E7 scale or the F# in the A7 scale. In addition, my ear wanted to hear the Bb as part of the A7 chord since it is outlined in the melody. To my ear, while the note choices shown above were clearly not wrong, they were also not *organic* to the song. Over time, based on intuition and listening to players who tended to play a more organic version of the harmony, I realized that what I was hearing was a version of the harmony where the only notes that changed from chord to chord and measure to measure were those notes that *had to change in order for the chord symbol to exist* as notated.

In the case of this progression, the only notes that have to change from the note collection of C Major are the G#, which is the 3<sup>rd</sup> of the E7 chord, and the C#, which is the 3<sup>rd</sup> of the A7 chord. Since the Bb is in the melody and would function as the b9 of the A7 chord, I included it as part of the A7 note collection as well. Looking at the harmony in this way produces the following note choices for the same passage:

C<sup>Δ7</sup>                      E7(b9)                      A7(b9)                      D-7

The two notes in parentheses are included because while there are very few "rules" in jazz, one that most ears agree on is that when a b9 is present, a #9 is implied and vice versa. In this case, the #9 of each chord is shown in parentheses because it serves as a passing tone when the sound of the augmented 2<sup>nd</sup> between the b9 and the 3<sup>rd</sup> is not desired.

The above example felt like a huge improvement to my ears, as though these note choices were somehow more fundamental and natural than the previous set. The notes that my intuition had labeled as "artificial" are no longer present, the note collections are faithful to the melody, and there are several fewer notes not in the key than the first version. Ironically, while it is a common perception that altered dominant chords are more complicated and dissonant than their unaltered counterparts, in this case the note collections produced are more "inside" the key of C Major than the unaltered ones; equally ironic, they are also more inside the key center than the superimposed altered

dominant scales that chord scale theory they replace would suggest. This is why I came to think of this approach under the umbrella of the term *organic*.

When listening to great players who seem to effortlessly outline the harmony of any song they play, I noticed that they had developed the craft of landing on *exactly the right note at exactly the right time* that would let the listener hear the harmony going by. In this case, the notes that define the changing harmony can be described as *Changing Tones* – notes in any measure that must be different from the previous harmony due to the structure of the chord. Landing on these notes either on or near the beginning of the measure where the chord changes lets the listener hear the harmonic changes even if there is no harmonic instrument outlining the chords themselves.

At this point, I came to understand that changing tones were the main driver of melodic lines that outline the harmony. But they were often obscured by the way chord scales were presented, with each chord having a scale built from the root of the chord; because the changing tones were not often the roots of these scales, thinking about each scale a separate entity obscured the voice leading of the changing tones I was aiming for and made hearing the larger key center more difficult and unnecessarily complicated. What my brain seemed to be searching for was a basic map of the changing tones within the overall key. After many years and failed attempts to represent the subconscious organization my brain seemed to be in search of, I came to express the idea of a *changing tone map* as in the example below.



In this way of looking at the available notes to play, notes that are different from notes in the previous harmony - in other words, *changing tones* – are marked above with a “+” sign. The changing tones that are outside of the key center have the strongest harmonic weight, and are therefore the strongest choices to use to help outline the harmony through melody. Looking at the harmony in this way also makes it easier to see just how many of the available note choices already exist within the key signature of the song; to my brain, this made this approach more organic and less confusing. In the entire passage representing 8 bars of the tune, looking at the progression as 4 different chord scales would yield 28 scale tones to think about. Thinking of it as “C Major, but with changing tones” enabled my brain to think of one Major key with three chromatic notes that occur in specific places, like toggle switches. This seemed a lot more logical, and more importantly, much simpler.

Before moving on, let’s look at all three ways of looking at this excerpt side by side.

(Traditional approach)

C<sup>Δ7</sup> E<sup>7</sup> A<sup>7</sup> D<sup>-7</sup>

(Organic note choices, different roots)

C<sup>Δ7</sup> E<sup>7♭9</sup> A<sup>7♭9</sup> D<sup>-7</sup>

(Organic approach with changing tones)

C<sup>Δ7</sup> E<sup>7♭9</sup> A<sup>7♭9</sup> D<sup>-7</sup>

**Simple Guide Tone Line:** Similar to "Take The A Train". Works with both versions of the harmony because it's constructed entirely of chord tones.

C<sup>Δ</sup> E<sup>7</sup> A<sup>7</sup> D<sup>-7</sup>

**Simple Elaboration of Guide Tone Line:** First and last measures will be exactly the same for both ways of looking at the harmony. Middle measures will vary due to scale choices. Try to imagine the pattern fleshed out for the middle measures.

C<sup>Δ</sup> E<sup>7</sup>

A<sup>7</sup> D<sup>-7</sup>

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**Line Elaboration with Mixolydian Chord Scale Approach:** Listen to the notes elaborating the guide tone line.

Musical notation for Line Elaboration with Mixolydian Chord Scale Approach. The first staff shows a CΔ chord above the first two measures and an E7 chord above the last two measures. The second staff shows an A7 chord above the first two measures and a D-7 chord above the last two measures. Fingerings (3, 5, R, 3) and (5, R, 3, 5) are indicated below the notes.

**Line Elaboration with Organic Note Collection Approach:** Listen to the notes elaborating the guide tone line.

Musical notation for Line Elaboration with Organic Note Collection Approach. The first staff shows a CΔ chord above the first two measures and an E7(b9) chord above the last two measures. The second staff shows an A7(b9) chord above the first two measures and a D-7 chord above the last two measures. Fingerings (3, 5, R, 3) and (5, R, 3, 5) are indicated below the notes.

**Further Elaboration with Mixolydian Chord Scale Approach:** Uses all 7 notes of each scale. Listen to the notes elaborating the guide tone line.

Musical notation for Further Elaboration with Mixolydian Chord Scale Approach. The first staff shows a CΔ chord above the first two measures and an E7 chord above the last two measures. The second staff shows an A7 chord above the first two measures and a D-7 chord above the last two measures. Fingerings (3, 5, R, 3) and (5, R, 3, 5) are indicated below the notes.

**Further Elaboration with Organic Note Collection Approach:** Covers entire octave for each chord.  
Listen to the notes elaborating the guide tone line.

The image shows two staves of musical notation. The first staff is in C major (CΔ) and the second staff is in A7 (A7♭9). The notation shows a sequence of notes with fingerings (3, 5, 2, 3) and rests, illustrating the organic note collection approach.

Now that we've looked at the basic concept over a short sample progression, let's take a look at how the same concept plays out over an entire tune. We'll start with taking the concept we have been talking about here on the changes to the first 8 bars of "All Of Me" and expand them out to show how they might play out over an entire solo, then break down two more progressions – a blues in F and "Stella by Starlight" - in more detail. As we move forward, the examples can be given with less explanation, as we will simply be repeating steps that we have already taken up to this point. At the end of the chapter, I'll include a summary of the concept of organic harmony, definitions of terms, and a step-by-step guide to creating a changing tone map for any progression or excerpt of a progression.

In the following full chorus of solo over "All Of Me", the concepts of organic harmony and changing tones have been taken to their logical conclusions. I played a normal sort of "outlining solo" with only a drum track to accompany the bass in order to demonstrate how the use of changing tones combined with the practice of landing on diatonic chord tones (i.e. – chord tones that were already present in the key center) can produce a solo that lets the listener hear the chord changes going by without the need for a harmonic instrument to provide the chords as part of the accompaniment.

Listen to the recording of the solo while looking at the transcription (or better yet, play it on your instrument or the piano as a single line). The transcription has been annotated to show where the changing tones occur, and also where the diatonic chord tones occur at or near the beginning of each chord change. Over the course of the song, there are 21 chord changes happening. Of the 84 chord tones the harmony entails, all but 10 already existed as diatonic notes in C major. The 74 diatonic chord tones represent 88% of the available chord tones in the piece. The other 10 notes not in the key are all changing tones. This percentage of diatonic chord tones to changing tones is fairly representative of standard tunes that can be viewed as all in one key.

# ALL OF ME SOLO

(SOLO OVER ORGANIC CHANGES)

+ = Changing Tone

DCT= Diatonic Chord Tone

Chromatic passing/neighbor tones notated with small noteheads

The musical score is written in 4/4 time and consists of 16 measures. It is divided into two systems of eight measures each. The first system (measures 1-8) is primarily in the bass clef, with the second measure of the second system moving to the treble clef. The second system (measures 9-16) returns to the bass clef. Chord changes are indicated by symbols above the staves, and specific notes are marked with '+' for changing tones and 'DCT' for diatonic chord tones. Trills are indicated by '3' above notes. A bluesy A7 chord is marked in measure 15.

**Measure 1:** Bass clef. Chords: C $\Delta$  (DCT), E7(b9). Notes: C2, D2, E2, F2, G2, A2, B2, C3.

**Measure 2:** Bass clef. Chords: A7(b9), D-7. Notes: C3, D3, E3, F3, G3, A3, B3, C4.

**Measure 3:** Bass clef. Chords: E7(b9), DCT, DCT. Notes: C4, D4, E4, F4, G4, A4, B4, C5.

**Measure 4:** Bass clef. Chords: D7, D-7, G7. Notes: C5, D5, E5, F5, G5, A5, B5, C6.

**Measure 5:** Bass clef. Chords: C $\Delta$  (DCT), E7(b9). Notes: C6, D6, E6, F6, G6, A6, B6, C7.

**Measure 6:** Bass clef. Chords: A7(b9) (+), D-7 (DCT). Notes: C7, D7, E7, F7, G7, A7, B7, C8.

**Measure 7:** Treble clef. Chords: F $\Delta$  (DCT), F-7 (+), C $\Delta$ /E (DCT). Notes: C8, D8, E8, F8, G8, A8, B8, C9.

**Measure 8:** Treble clef. Chords: A7 (BLUES). Notes: C9, D9, E9, F9, G9, A9, B9, C10.

**Measure 9:** Bass clef. Chords: D-7, (G7), G7 (DCT), C $\Delta$  (DCT). Notes: C10, D10, E10, F10, G10, A10, B10, C11.

**Measure 10:** Bass clef. Chords: G7 (DCT), C $\Delta$  (DCT), G7 (DCT). Notes: C11, D11, E11, F11, G11, A11, B11, C12.

## Blues In F

Here is an example of a well-known blues tune most jazz musicians know (Tenor Madness, by Sonny Rollins). For ease of comparison with another tune later in the chapter, it has been transposed into the key of F.

Chord progression for the first 12 bars:

- Bar 1: F7
- Bar 2: Bb7
- Bar 3: F7
- Bar 4: C-
- Bar 5: F7
- Bar 6: Bb7
- Bar 7: Bb7
- Bar 8: F7
- Bar 9: D7+9
- Bar 10: G-
- Bar 11: C7
- Bar 12: F7, D7, G-, C7

And here is an example of the traditional “chord scale” approach to the progression:

Chord scales for the first 12 bars:

- Bar 1: F7 (F mixolydian)
- Bar 2: Bb7 (Bb Mixolydian)
- Bar 3: F7 (F Mixolydian)
- Bar 4: C- (C Dorian)
- Bar 5: F7 (F Mixolydian)
- Bar 6: Bb7 (Bb Mixolydian)
- Bar 7: Bb7 (Bb Mixolydian)
- Bar 8: F7 (F Mixolydian)
- Bar 9: D7+9 (D Diminished Whole Tone)
- Bar 10: G- (G Dorian)
- Bar 11: C7 (C Mixolydian)
- Bar 12: (Condensed version of previous 4 bars)

Next, here is the organic harmony version of the same progression notated in the key signature of F7, all notes spelled from the same root, and with changing tones notated above where they occur. Beneath the staff, the name of the scale including the changing tones is expressed as different modes of an F scale.

(F Mixolydian) (F Dorian) (F Mixolydian)

(F Dorian) (F Mixolydian) (F Mixolydian with added F#)

(F Ionian) (Condensed version of previous 4 bars)

Here is the same progression distilled down to only the changing tones themselves and a few common chord tone resolutions. Note how this example closely mirrors the underlying structure of the melody itself:

(No change, but common 7-3 Chord Tone Resolution)

(Leading Tone, wants to resolve up)

(Resolution) (Changing Tones and 7-3 resolution) (Condensed version of previous 4 bars)

This last example represents the simplest way to express what's going on in a blues that I know of, and is basically what I am hearing when I am playing over a blues progression: to my mind, it's basically "F7, with toggle switches", where the toggle switches are what we are calling changing tones.

Looking at harmony from a key-centric perspective is also useful for voice leading chord tones from each harmony to chord tones in the next measure. When all are expressed from the same root, the paths leading from one to the other are more easily seen, as in the example below. Note that 92% of the chord tones listed (55/60) are already diatonic to the key.

**Two Roads to Rome:** Thinking of chord changes in these two different ways – as chord scales or as part of a key center - produces an identical set of note choices over the entire progression with the exception of two notes in the altered D7 chord.

(Considering the chord symbol out of context and pasting the scale in)

(Considering the chord symbol as part of the overall F7 tonality and altering only what is literally prescribed by the chord tones)

# Stella By Starlight Changes Comparison

**Key:**

iReal=iReal Pro  
 JA=Jamey Aebersold, Vol. 59  
 RB=Real Book  
 Colo=Colorado Cookbook  
 Orig=Victor Young's original changes from  
 the musical score of "The Univited", 1944

(Comparing different versions of changes for the same tune is a good object lesson on the hazards of taking written changes too literally.)

iREAL	E $\emptyset$ 7	A7b $\flat$ 9	C-7	F7	F-7	Bb7	Eb $\Delta$ 7	Ab7
JA	E-	A7	C-	F7	F-	Bb7	Eb $\Delta$	Ab7+4
RB	E-7b $\flat$ 5	A7b $\flat$ 9	C-7	F7	F-7	Bb7	Eb $\text{MAT}$ 7	Ab7
COLO	E-7	A7b $\flat$ 9	C-7	F7	F-7	Bb7	Eb $\Delta$	Ab7#11
ORIG	Bb $\circ$		C-7/Bb	F7b $\flat$ 13/Bb	F-7/Bb	Bb7b $\flat$ 9	Eb $\Delta$ Bb	Ab7

Bb $\Delta$ 7	E $\emptyset$ 7	A7b $\flat$ 9	D-7	Bb-7	Eb7	F $\Delta$ 7	E $\emptyset$ 7	Eb $\Delta$ 7#11	D7b $\flat$ 9	
Bb $\Delta$	E $\emptyset$	A7+ $\flat$ 9	D-	Bb-	Eb7	F $\Delta$	G-7	C7	A $\emptyset$	D7+ $\flat$ 9
Bb $\text{MAT}$ 7	E-7b $\flat$ 5	A7b $\flat$ 9	D-7	Bb-7	Eb7	F $\text{MAT}$ 7	E-7b $\flat$ 5	A7	A-7b $\flat$ 5	D7b $\flat$ 9
Bb $\Delta$	E $\emptyset$ 7	A7b $\flat$ 9	D-7	Bb-7	Eb7	F $\Delta$	G-7	C7	A $\emptyset$ 7	D7b $\flat$ 9
Bb/F	G-/E	D-		G $\emptyset$ /Db	F/C		Bb $\circ$	A $\emptyset$		(D7)

G7b $\flat$ 13		C-7		Ab7#11		Bb $\Delta$ 7
G7+ $\flat$ 9		C-		Ab7+4		Bb $\Delta$
G+7		C-7		Ab7		Bb $\text{MAT}$ 7
G7#9		C-		Ab7#11		Bb $\Delta$
G7b $\flat$ 9(#5)		C-7		Eb- $\Delta$		Bb $\Delta$ /D

E $\emptyset$ 7	A7b $\flat$ 9	D $\emptyset$ 7	G7b $\flat$ 9	C $\emptyset$ 7	F7b $\flat$ 9	Bb $\Delta$ 7
E-	A7	D $\emptyset$	G7+ $\flat$ 9	C $\emptyset$	F7b $\flat$ 9	Bb $\Delta$
E-7b $\flat$ 5	A7b $\flat$ 9	D-7b $\flat$ 5	G7b $\flat$ 9	C-7b $\flat$ 5	F7b $\flat$ 9	Bb $\text{MAT}$ 7
E-7	A7b $\flat$ 9	D $\emptyset$ 7	G7b $\flat$ 9	C $\emptyset$ 7	F7b $\flat$ 9	Bb
Db $\circ$		D $\emptyset$ /Ab	G7	C $\emptyset$	F7	(Bb $\circ$ /A)

## Typical Changes Expressed as Chord Scales

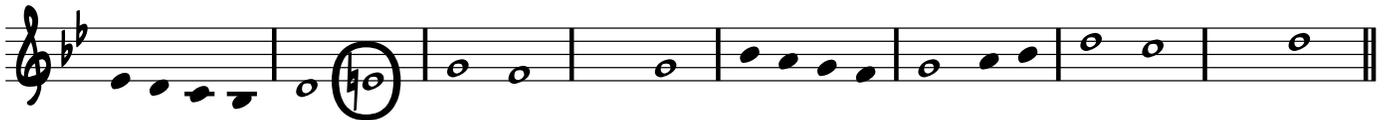
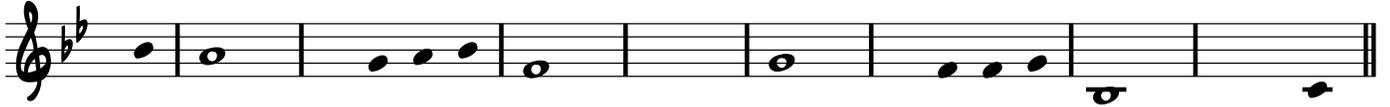
(21 distinct chord scales built from 10 different roots)

The image displays 21 distinct chord scales, each represented by a sequence of notes on a treble clef staff. The scales are organized into rows, with chord symbols and names provided for each.

- Row 1:** E Locrian (E $\emptyset$ ), A Dim/W.T. (A $7b9$ ), C Dorian (C-7), F Mixolydian (F7)
- Row 2:** F Dorian (F-7), Bb Mixolydian (Bb7), Eb Ionian (Eb $\Delta$ ), Ab Lydian Dominant (Ab $7\#4$ )
- Row 3:** Bb Ionian (Bb $\Delta$ ), E Locrian (E $\emptyset$ ), A Dim/W.T. (A $7b9$ )
- Row 4:** D Dorian (D-7), Bb Dorian (Bb-7), Eb Mixolydian (Eb7)
- Row 5:** F Ionian (F $\Delta$ ), G Dorian (G-7), A Locrian (A $\emptyset$ ), D Dim/W.T. (D $7b9$ )
- Row 6:** G Dim/W.T. (G $7b9(b13)$ ), C Dorian (C-7)
- Row 7:** Ab Lydian Dominant (Ab $7\#4$ ), Bb Ionian (Bb $\Delta$ )
- Row 8:** E Locrian (E $\emptyset$ ), A Dim/W.T. (A $7b9$ ), D Locrian (D $\emptyset$ ), G Dim/W.T. (G $7b9$ )
- Row 9:** C Locrian (C $\emptyset$ ), F Dim/W.T. (F $7b9$ ), Bb Ionian (Bb $\Delta$ )

## Stella Melody notes in key signature of Bb

In contrast to the previous two pages, an examination of the melody notes written in the key signature of Bb seems to tell a much simpler and more diatonic story.



Viewed in this way, the entire melody is diatonic with the exception of two notes:

- The E natural in m. 10, which is the lower leading tone to the 5th of the key
- The G flat in mm. 29-30, which is the chromatic upper neighbor of the 5th of the key

# Harmonic Analysis

4

- \* - Denotes mode mixture chords from the parallel minor
- \*\* - Denotes only chord in harmony not found in Bb Major or minor as a diatonic or secondary function chord

Handwritten harmonic analysis of a piece in Bb major. The analysis consists of 10 staves of music with various chords and functional labels. The chords are: Eø, A7b9, C-7, F7, F-7, Bb7, EbΔ, Ab7#4, BbΔ, Eø, A7b9, D-7, Bb-7, Eb7, FΔ, G-7, Aø, D7b9, G7b9(b13), C-7, Ab7#4, BbΔ, Eø, A7b9, Dø, G7b9, Cø, F7b9, BbΔ. Functional labels include I, II, III, IV, V, VI, VII, VIII, and their minor/major variants. Some are marked with \* or \*\*.

# Alternate "Organic Changing Tone" Approach:

Considering all chord scales as part of BbMa tonality  
 (All scales either modes of Bb, or modes with an added note)  
 All notes different from previous scale marked with a "+"

E<sup>∅</sup> + A7<sup>b9</sup> + C-7 + + F7

Lydian Lydian w/ added #2 Ionian

F-7 + B<sup>b7</sup> E<sup>bΔ</sup> A<sup>b7#4</sup> +

Mixolydian (Blank measure = continue previous note collection) Mixolydian w/b6

B<sup>bΔ</sup> + + (E<sup>∅</sup>) + + A7<sup>b9</sup> D-7 + B<sup>b-7</sup> + + E<sup>b7</sup> +

Ionian Lydian w/ added #2 Lydian Dorian

F<sup>Δ</sup> + + + G-7 A<sup>∅</sup> + D<sup>7b9</sup> +

Lydian Ionian Ionian w/ added #5

G7<sup>b9(b13)</sup> + + C-7 + \*

Mixolydian w/ added #1 Mixolydian  
 \* - could also be Ionian

A<sup>b7#4</sup> + B<sup>bΔ</sup> + +

Mixolydian w/b6 Ionian

E<sup>∅</sup> + A7<sup>b9</sup> + D<sup>∅</sup> + + G7<sup>b9</sup> +

Lydian Lydian w/ added #2 Mixolydian Mixolydian w/ added #1

C<sup>∅</sup> (+) + F7<sup>b9</sup> B<sup>bΔ</sup> + (+) (+)

Mixolydian w/b6 Mixolydian w/b6 and added Ma7 Ionian

## "Organic Changing Tone" Reduction:

Considering the entire song as part of BbMa tonality

All notes not in the key signature are shown, along with  
all notes different from previous scale marked with a "+"

Staff 1: Treble clef, key signature of two flats. Chords: E<sup>ø</sup>, A<sup>7b9</sup>, C<sup>-7</sup>, F<sup>7</sup>. Notes: G<sub>2</sub>, B<sub>b2</sub>, D<sub>3</sub>, F<sub>3</sub>, A<sub>b3</sub>, C<sub>4</sub>, E<sub>b4</sub>, G<sub>4</sub>. Accidentals: # for F<sub>3</sub>, b for A<sub>b3</sub>, E<sub>b4</sub>.

Staff 2: Treble clef, key signature of two flats. Chords: F<sup>-7</sup>, B<sub>b</sub><sup>7</sup>, E<sub>b</sub><sup>Δ</sup>, A<sub>b</sub><sup>7#4</sup>. Notes: B<sub>b2</sub>, D<sub>3</sub>, F<sub>3</sub>, A<sub>b3</sub>, C<sub>4</sub>, E<sub>b4</sub>, G<sub>4</sub>. Accidentals: b for B<sub>b2</sub>, A<sub>b3</sub>, E<sub>b4</sub>.

(Blank measure = continue previous note collection)

Staff 3: Treble clef, key signature of two flats. Chords: B<sub>b</sub><sup>Δ</sup>, E<sup>ø</sup>, A<sup>7b9</sup>, D<sup>-7</sup>, B<sub>b</sub><sup>-7</sup>, E<sub>b</sub><sup>7</sup>. Notes: B<sub>b2</sub>, D<sub>3</sub>, F<sub>3</sub>, A<sub>b3</sub>, C<sub>4</sub>, E<sub>b4</sub>, G<sub>4</sub>. Accidentals: # for F<sub>3</sub>, b for B<sub>b2</sub>, A<sub>b3</sub>, E<sub>b4</sub>.

Staff 4: Treble clef, key signature of two flats. Chords: F<sup>Δ</sup>, G<sup>-7</sup>, A<sup>ø</sup>, D<sup>7b9</sup>. Notes: B<sub>b2</sub>, D<sub>3</sub>, F<sub>3</sub>, A<sub>b3</sub>, C<sub>4</sub>, E<sub>b4</sub>, G<sub>4</sub>. Accidentals: b for B<sub>b2</sub>, A<sub>b3</sub>, E<sub>b4</sub>.

Staff 5: Treble clef, key signature of two flats. Chords: G<sup>7b9(b13)</sup>, C<sup>-7</sup>. Notes: B<sub>b2</sub>, D<sub>3</sub>, F<sub>3</sub>, A<sub>b3</sub>, C<sub>4</sub>, E<sub>b4</sub>, G<sub>4</sub>. Accidentals: b for B<sub>b2</sub>, A<sub>b3</sub>, E<sub>b4</sub>.

Staff 6: Treble clef, key signature of two flats. Chords: A<sub>b</sub><sup>7#4</sup>, B<sub>b</sub><sup>Δ</sup>. Notes: B<sub>b2</sub>, D<sub>3</sub>, F<sub>3</sub>, A<sub>b3</sub>, C<sub>4</sub>, E<sub>b4</sub>, G<sub>4</sub>. Accidentals: b for B<sub>b2</sub>, A<sub>b3</sub>, E<sub>b4</sub>.

Staff 7: Treble clef, key signature of two flats. Chords: E<sup>ø</sup>, A<sup>7b9</sup>, D<sup>ø(+)</sup>, G<sup>7b9</sup>. Notes: B<sub>b2</sub>, D<sub>3</sub>, F<sub>3</sub>, A<sub>b3</sub>, C<sub>4</sub>, E<sub>b4</sub>, G<sub>4</sub>. Accidentals: b for B<sub>b2</sub>, A<sub>b3</sub>, E<sub>b4</sub>.

Staff 8: Treble clef, key signature of two flats. Chords: C<sup>ø(+)</sup>, F<sup>7b9</sup>, B<sub>b</sub><sup>Δ</sup>. Notes: B<sub>b2</sub>, D<sub>3</sub>, F<sub>3</sub>, A<sub>b3</sub>, C<sub>4</sub>, E<sub>b4</sub>, G<sub>4</sub>. Accidentals: b for B<sub>b2</sub>, A<sub>b3</sub>, E<sub>b4</sub>.

# Chord Tones Only From Bb major Perspective

Connecting one in each measure to closest in next measure  
creates guide tone lines with good voice leading.  
83% of chord tones (106/128) are diatonic.  
The rest are changing tones.

The musical score consists of 12 measures of music in Bb major, showing chord tones and voice leading. The notes are as follows:

Measure	Notes
1	E <sup>o</sup> (Eb, G, Bb)
2	A7 <sup>b9</sup> (Ab, C, Eb, F, Gb)
3	C-7 (F, Ab, C)
4	F7 (Bb, D, F, Gb)
5	F-7 (Eb, G, Bb)
6	B <sup>b7</sup> (Ab, C, Eb, F, Gb)
7	E <sup>bΔ</sup> (Eb, G, Bb)
8	A <sup>b7#4</sup> (Ab, C, Eb, F, Gb, Ab)
9	B <sup>bΔ</sup> (Ab, C, Eb, F, Gb)
10	E <sup>o</sup> (Eb, G, Bb)
11	A7 <sup>b9</sup> (Ab, C, Eb, F, Gb)
12	D-7 (F, Ab, C)
13	B <sup>b-7</sup> (Ab, C, Eb, F, Gb)
14	E <sup>b7</sup> (Eb, G, Bb, C)
15	F <sup>Δ</sup> (Eb, G, Bb)
16	G-7 (F, Ab, C)
17	A <sup>o</sup> (Eb, G, Bb)
18	D7 <sup>b9</sup> (F, Ab, C, Eb, Gb)
19	G7 <sup>b9(b13)</sup> (F, Ab, C, Eb, Gb, Ab)
20	C-7 (F, Ab, C)
21	A <sup>b7#4</sup> (Ab, C, Eb, F, Gb, Ab)
22	B <sup>bΔ</sup> (Ab, C, Eb, F, Gb)
23	E <sup>o</sup> (Eb, G, Bb)
24	A7 <sup>b9</sup> (Ab, C, Eb, F, Gb)
25	D <sup>o</sup> (Eb, G, Bb)
26	G7 <sup>b9</sup> (F, Ab, C, Eb, Gb)
27	C <sup>o</sup> (Eb, G, Bb)
28	F7 <sup>b9</sup> (Bb, D, F, Gb)
29	B <sup>bΔ</sup> (Ab, C, Eb, F, Gb)

# STELLA BY STARLIGHT

(CHRIS FITZGERALD SOLO OVER SLIGHTLY ALTERED CHANGES)

(INTRO)

1  $D_{sus^2}/F$   $E_{b_{sus^2}}/F$   $E_{sus^2}/F$   $E_{b_{sus^2}}/F$

5  $D_{sus^2}/F$   $E_{b_{sus^2}}/F$   $E_{sus^2}/F$   $E_{b_{sus^2}}/F$

(STELLA CHORUS STARTS HERE)

+ = CHANGING TONE

DCT = DIATONIC CHORD TONE

9  $A_{7b^9_{sus}}$   $A_{7b^9}$   $F_{7sus}$   $F_7$   
DCT DCT

13  $B_{b7_{sus}}$   $B_{b7}$   $E_{b\Delta}$   $A_{b7}$   
DCT DCT

17  $B_{b\Delta}$   $A_{7b^9_{sus}}$   $D_{-\Delta}$   $E_{b7_{sus}}$   
DCT DCT

21  $F_{\Delta}$   $G_{-}$   $F_{sus^2}/A$   $D_{7b^9}$   
DCT DCT

25  $G7b^{13}$  C- DCT DCT 3 3 3 3 DCT

Musical staff for measures 25-28. Measure 25 has a  $G7b^{13}$  chord and a '+' sign. Measures 26-28 have DCT chords. Measure 27 has triplets. Measure 28 has a DCT chord and an 'x' on the final note.

29  $A^b7$   $B^b\Delta$  DCT GLISS.

Musical staff for measures 29-32. Measure 29 has an  $A^b7$  chord and a '+' sign. Measure 30 has a  $B^b\Delta$  chord. Measure 31 has a DCT chord. Measure 32 has a glissando mark.

33  $A7b^9sus$  DCT  $A7b^9$   $G7b^9sus$   $G7b^9$

Musical staff for measures 33-36. Measure 33 has an  $A7b^9sus$  chord and a '+' sign. Measure 34 has an  $A7b^9$  chord. Measure 35 has a  $G7b^9sus$  chord and a '+' sign. Measure 36 has a  $G7b^9$  chord and a '+' sign.

(OUTTRO BEGINS IN PLACE OF LAST 2 BARS)

37  $F7b^9sus$   $F7b^9$  DCT  $Dsus^2/F$   $E^bsus^2/F$

Musical staff for measures 37-40. Measure 37 has an  $F7b^9sus$  chord. Measure 38 has an  $F7b^9$  chord. Measure 39 has a DCT chord. Measure 40 has  $Dsus^2/F$  and  $E^bsus^2/F$  chords.

Hopefully, at this point the process of looking at harmonic progressions in a key centric way is relatively clear. At the end of the PDF book chapter that accompanies this video, I'll include some step-by-step instructions for how to go about creating a changing tone map of any progression, and this process and fleshing out the individual steps involved will be the subject of a future video in the series; but before the process is expanded to a method that can be used to approach any tune in its entirety, one very logical question to ask might be "when should I use this approach, and how far should I take it?"

There is no definitive answer to that question, and each person will need to decide for themselves whether this approach is useful, and if so, when to use it. One question I have been asked many times by students studying this concept over the years is "do you really create maps like this for all of the hundreds of tunes you have learned?" The answer is yes and no.

Subconsciously, my brain is always trying to see the unifying/organic aspects of any melody and harmonic progression I am playing. When this happens naturally, there is no need to resort to graphic notations of a music theory concept; in other words, if the music is flowing freely, then it's a case of "if it ain't broke, don't fix it". Other times, however, I find myself struggling to make sense of certain parts of a progression.

For example, let's say there is a 32 bar song, and I am playing freely over most of it but there are two 4 bar phrases where my level of intuitive understanding seems to be lacking; during these passages, the result will be that the level of musical flow becomes choked, and the overall performance will suffer because of it. It is in passages like these where I will focus on better understanding what is going on, and this often involves formally mapping out the changes of these passages to bring the level of improvisational freedom more in line with the rest of the progression.

To me, this is at the heart of the question about the usefulness of any aspect of music theory. In the end, the goal is similar to how we learn any language: we learn the structure and the "rules" by some combination of osmosis and formal education; but ultimately, the point is not to be able to recite the rules, but rather to be a fluent and hopefully eloquent speaker. We hope to not have to think about grammar and syntax when we are speaking, since doing so would interrupt the flow.

Occasionally, we encounter a situation where we don't know how to pronounce a word or how to formulate a particular thought into a sentence. In cases like this, we might consult a dictionary or other grammatical reference to clear the lack of understanding up. Once that is done, we tend to close the book and carry on speaking or writing until the next roadblock comes along. This is how I would advocate approaching any music theory concept. Use it only until it is internalized, then put the book away until it can help to answer a question. From then on, speak when you can, and refine when the need arises. Wash, rinse, repeat.

The last part of this chapter includes a set of Principles, Definitions, and Steps to putting together a changing tone map of any progression. Some viewers may be familiar with the principles behind all of the steps, while others may only be comfortable with the basics already discussed here. The plan is to dedicate another Theory in Practice video to walking through the steps to create a Changing Tone Map. In the meantime, I will include information on the basic principles, definitions and steps related to the process of creating a changing tone map for any progression – or excerpt from a progression – that seems to require a deeper dive into understanding the details that make it tick in a unified and organic way. Happy exploring!

### Principles, Definitions, and Steps

The organic approach to harmony begins with the assumption that chords that are harmonizing melodies that are either largely or entirely diatonic are best approached as planets orbiting the same sun (key center) as the melody. When viewed in this way, the focus in determining which notes fit over any individual chord is not on assigning a separate chord scale match each chord symbol with the root of the chord given as the root of the corresponding scale, but rather on seeing each chord as part of a bigger more unified progression.

The difference between the two approaches is both psychological and also eminently practical. Put simply, it is the difference between viewing a progression as either:

- A series of chord scales that all have different roots, which at first glance appear *more different than alike* from measure to measure and chord to chord; or
- One big tonality built around the same seven pitch names, where individual notes may toggle up or down based on the chord supporting them, but which remain *more alike than different* from measure to measure and chord to chord.

Put more simply, the organic approach to harmony can be described as viewing harmony in the same light as we view melody; when we see a passage of diatonic melody, we think “this passage is in the key of...”. This helps us to see and hear the big picture and not lose sight of the forest because we are blinded by so many trees. The same sort of global vision can be applied to harmony as well.

**Changing Tone:** in any set of notes that fit over a given chord, a *changing tone* is a note that has been altered up or down from the pitch of the same letter name in the previous measure. For instance, in the key of C Major, if the chord in m.1 is a CMa7 and the chord in m.2 is a G-7, the Bb in m.2 would be considered a *changing tone* because it is the one note that must change between the two chords, while all other “scale tones” could remain the same between the two measures.

In general, changing only the notes that *must* change between one chord and the next will produce the most organic version of the harmonic progression because it retains the most common tones between adjacent chord “scales”.

## How to Begin:

- Identify a passage of music that seems to be built around a melody that is largely or entirely diatonic.
- Analyze the chords harmonizing the melody to determine if they can be understood as some combination of the following:
  - Chords that are diatonic to the major or minor key of the melody
  - Chords that function as secondary dominants or secondary diminished leading to a diatonic chord in the key of the melody. (i.e. – V7/ii, viio7/ii, subV7/IV, etc.)
  - Mode mixture chords borrowed from the parallel minor or Major key.
- If the chords fall into these categories, it is very likely that the harmony in question can be approached as an example of organic harmony.

### **Steps to Develop a Changing Tone Map: (Use for anything from a troublesome part of a progression to an entire progression, as needed)**

- Create a musical staff with the chord changes over the top following the form of the song in question.
- Use the key signature of the song on the staff, as you would do for the melody of the song.
- In each measure, write in the 7 notes from root of the key to the octave.
- When a specific chord tone of a chord symbol requires that a note in the key be changed with an accidental, change it. These notes are *chromatic changing tones*, and are often the most important notes to target when improvising since they let the listener know that the harmony has shifted outside of the key.
- As part of the above step, try to resist the temptation to change notes that are not specific chord tones or altered extensions listed in the chord symbol. For many of us, the temptation will be there because of what our brains have learned as “theoretically correct”. Instead of doing this, change only the notes indicated in the chord symbol.
- Dominant chords with an altered 9<sup>th</sup> present their own challenge because their notation is not standardized; some sources tend to notate these chords as a default “7#9” (or “7+9”), while others tend to use “7b9” as the default notation. For our purposes, we will assume the following guidelines:
  - When a #9 is present, a b9 is implied and vice versa. No further assumptions about the rest of the notes of that scale need be made.
  - Dominant chords that resolve by 5<sup>th</sup> to a minor chord tend to have altered 9ths, even if the chord symbol does not specifically state this.
- At this point, examine the results and see how your intuition reacts. No matter what happens, when there is any conflict between what your ear prefers and what your brain believes is “correct”, assume your ear is always right!

## **Organic Harmony and Changing Tones – Video Index**

Due to the length of this video, it will be indexed below in four parts. Clicking on the time stamp to the left of each index topic in the YouTube window below the video will take the viewer directly to that part of the video. On mobile devices, the viewer may need to manually forward to find particular topics.

### **Part I – Introduction and definition of Organic Harmony**

- 0:00 – Title screens and All Of Me solo
- 1:16 – Introduction
- 4:03 – Definition of “Organic Harmony”
- 5:00 – FMa7 in two different contexts
- 6:57 – A-7 in two different contexts
- 9:17 – Conflicts between education and intuition

### **Part II – Musical examples relating to changes to All Of Me**

- 10:04 – Introduction to first 8 bars of All Of Me
- 10:33 – All Of Me changes comparison and melodic reduction
- 11:01 – All Of Me chord scale approach
- 13:04 – All Of Me organic approach
- 15:30 – Definition of “Changing Tones”
- 17:30 – All Of Me changing tone map
- 19:00 – Comparison of three different approaches to All Of Me changes
- 20:30 – Embellishing guide tone lines: traditional vs. organic approach examples
- 25:38 – Melodic improvisation based on an organic approach
- 26:45 – All Of Me transcription introduction
- 30:28 – All Of Me transcribed solo with analysis

### **Part III – Musical examples relating to Blues in F**

- 32:02 – Blues in F examples (melody)
- 32:48 – Blues as chord scales
- 34:18 – Organic approach to the blues
- 37:18 – Blues Changing Tone Map/reduction
- 41:42 – Chord tones and voice leading
- 46:28 – Two roads to Rome

### **Part IV – Musical examples relating to Stella By Starlight**

- 48:11 – Stella By Starlight content introduction
- 49:12 – Stella By Starlight changes comparison
- 50:00 – Stella changes as chord scales
- 52:10 – Stella - The simplicity of the melody
- 55:05 – Stella – Harmonic analysis
- 57:48 – Stella – Organic approach
- 1:00:18 – Stella – Changing tone map
- 1:02:09 – Stella – Creating guide tone lines with changing tones and chord tones
- 1:06:27 – Stella – Introduction to annotated transcribed solo
- 1:08:42 – Annotated solo transcription
- 1:09:58 - Conclusion