**Koninklijk Conservatorium, Den Haag**

Jazz guitar

David Reschofsky

# Modern vertical thinking

(Triad pairs over seventh chords)

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## Introduction

Since I do jazz I like to play and experiment with irregular and dissonant chords and I like to play with multiple phrases at the same time. For some reason I feel more comfortable during my solo if I play with chords as well. That is why I would like to research the voicing and triad chords more. I would like to develop my skills of playing alone and that is also why I am so interested in chords and polyphony.
I listen to modern jazz a lot and I hear this kind of modern triad substitutions and voice leadings by the contemporary guitarists (Kurt Rosenwinkel, Ben Monder, Adam Rogers, Jonathan Kreisberg). This is the sound I'm looking for because I hear the same in my music as well.

On the guitar it is not so common to lead the voices between the chords. Without exaggeration I can state that there are some exceptional modern guitarists who play the guitar like pianists play the piano. They use very nice and interesting chord voicings with triads when they comp and during their solos.

There are some background sources already about jazz theory that relate to the topics of triads, polytonality and voice leading. Gary Cambell and Randy Vincent address polytonality with an emphasis on vertical sonority (Cambell, 2007; Vincent, 2002). Jazz theory at large has been examined by Bert Ligon in his book *Jazz Theory Resources: tonal, harmonic, melodic and rhythmic organization of jazz* (2001).

Modern jazz uses triad chords a lot. I would like to know all possible triad substitutions over seventh chords, so I will also examine this in my thesis. What I hear and what I transcribed from these musicians is that they know the main music systems and the possibilities very well. I will listen to and transcribe solos from the artists above and find out what kind of scales and triad combinations they use. I will then examine these systems to discover what kind of triad chords there are and how we can use them in an irregular way.

So my main question is, how can I use the concept of triad pairs to express the sound that is in my head?

## Triads

Definition: A triad is a set of three different notes that can be stacked in thirds.

Types: Cmajor, Cminor, Cdiminished, Caugmented

A structure of the triad chord is strong enough to specify a tonality of the music. This can be the most traditional and popular , as well as one of the most modern sounds. If we put two different triad chords next to each other, we get a triad pair. We can use these four, five or six notes as a scale over any seventh chord.

## Triad pairs

Any two triads can form a triad pair, and there are about 7 diatonic triads that can be stacked onto every regular 7th chord. If I'm thinking in major modes, then I can start a triad on any note of the scale and extend it by adding another triad on top of it that comes from the same diatonic scale. What triad you play gets you a different sound. The term polytonal refers to two triads that have no notes in common, resulting in a six-note (hexatonic) collection. Triad pairs that have both triads belonging to the same seven-note scale are always adjacent triads. Their roots are next to each other in the scale, such as I and II or IV and V. Major and minor triad pairs which are a tritone apart, can be found in the eight-note diminished scale. Most of the popular triad pairs use two major triads or two minor triads, but mixed versions and versions using diminished and augmented triads also exist and are used.

Working with triad pairs is a very effective way for building fresh sounding melodic lines. If we limit notes down to six, we can get a concise and special sound. Rendering these notes in a form of triad pairs we can get more variety in tone color and melodic possibilities.

Triads usually express tonality. Combining two triads may create the effect of bi-tonality or polytonality. The polytonal effect is stronger when the triad pair is used over a root tone that is not present in any of the triads. The stand alone sound is often enough to make a strong melodic line no matter how it is relating to the harmony over which it is built up.
The triads offer a frame to base lines. This can be a good way to build up modal settings where there are no diatonic movements where every chord changes can last long.[1]

[1] Campbell 2007, p.1

## Hexatons

If we put the notes of the two triads in order we can call this "Hexatonic" scale. This thinking which is based on hexatons is a very popular tool of the modern jazz.

For instance: C major triad and F# major triad

If I think about the hexaton as two triad chord I can use it in a vertical way.
For example, I can substitute seventh chords with triads or I can play triads over different basses.
If I think about the hexaton as a scale I can use it in a horizontal way. For example I can make melody from the scale or I can play 2 triad arpeggios over the actual seventh chord.

## Conjunct and Disjunct triad pairs

If I put two triads next to each other and they have at least one common note it is called conjunct triad pair.

For example: A major triad and C major triad

These systems/scales have just 5 different notes or less.
If the two triads don't have a common note because there are 6 different notes they are called disjunct triad pair. In my thesis I will only examine these triad pairs.

Let's see for example a melodic minor scale as the chord-scale for a situation and see which triad pairs we can use. We see that within a C melodic minor scale the following triads can be found:

Cmin, Dmin, Eb.aug, Fmaj, Gmaj, Adim, Bdim

The possible triads are:
Cm/Dm, Dm/Eb.aug, Eb.aug/Fmaj, Fmaj/Gmaj, Gmaj/Adim, Adim/Bdim, Bdim/Cmaj,

These are my preferred selections:
Cmin/Dmin, Fmaj/Gmaj

The above mentioned triad pairs can be used wherever we would like to use the C melodic minor scale.
We have to experiment with them and decide which sounds best.[2]

I've taken the triad pair Fmaj-Gmaj and I want to decide over which chords it can be used. I have examined the diatonic triads within different scales and I have found this triad pair within the C melodic minor scale and the C major scale:

Fmaj and Gmaj diatonic triads in the C melodic minor scale: $4^{th}$ and $5^{th}$ degree. [3]

[2] Campbell 2007, p. 11
[3] Ibid.

Fmaj and Gmaj diatonic triads in the C major scale: 4th and 5th degree.

A C melodic minor scale can be used over these chords:
Cmi(maj7), Dsus(b2), Ebmaj7(#5), F7(#11), G7(b13), Am7b5, B7alt.

A C major scale can be used over these chords:
Cmaj7, Dm7, Esus(b2), Fmaj7(#11), Gsus11, Am(b6), Bm7b5

So we can use the triad pair Fmaj-Gmaj over all of the above mentioned chords.[4]

**Triads in the natural music systems**

The numbers symbolize the degrees in the actual system.

**Major system**

Major: 1, 4, 5
Minor: 2, 3, 6
Diminished: 7
Augmented: -

**Melodic minor system:**

Major: 4, 5
Minor: 1, 2
Diminished: 6, 7
Augmented: 3

**Harmonic minor system:**

Major: 5, 6
Minor: 1, 4
Diminished: 2 ,7
Augmented: 3

**Triads in the two symmetrical music systems**

The symmetrical scales show a different chordal environment from the traditional seven tone scales.

The diminished scale contains four major triads, four minor triads, and two diminished seventh chords.
Any two of these chords that do not share a common note makes a viable triad pair.
The augmented scale contains three major triads, three minor triads and two augmented triads. Any two of these chords that do not share a common note makes a viable triad pair.

[4] Ibid. p.11

Triads in the **Octatonic system** (1-2)

C-octatonic scale:
C C# D# E F# G A Bb
1 b9 #9 3 #11 5 6 b7

One of the best scale choices may be the diminished scale over Dom7alt. chord.

**Triads in the system:**

Major:1,3,5,7
Minor:1,3,5,7
Dim.:,1,2,3,4,5,6,7,8
Aug.: NO

Triads in the **Augmented system** ( 1-3)

C Augmented scale:
C Db E F G# A
1 b9 3 11 #5 6

It is possible to play augmented scale over maj, min, aug, minMAJ7, Maj7, Maj7+ chord.

For example: It is possible to play C augmented scale over these chords:
Db or F or A (maj, min, aug, minMAJ, Maj7, Maj7+)

Triads in the system:

Major: 2, 4, 6
Minor: 2, 4, 6
Dim.: NO
Aug.: 1, 2, 3, 4, 5, 6

**<u>Variations of the disjunct triad pairs</u>**

I was curious to know how many variations there are of the disjunct triad pairs. There are 4 types of triad chords and to check all the combinations there are 4x4=16 different options: (maj+maj, maj+min, maj+dim, maj+aug,..etc)
It is necessary to check all the 16 combinations compared to all the 11 distances. (b2,2,b3,3,p4,b5,5,b6,6,b7,7) Therefore we have 176 options (16x11). It is a lot, but fortunately we can simplify it. To examine the b2,2,b3,3,p4,b5 distances is enough because the rest is the same in this context.
For example, between Cmin and Ab dim chord there is a (minor 6th) distance. We confirmed this already when we examined the distance between Ab dim. and Cmin chord. (3rd distance). This would be unnecessary double work, so instead of 176 we have 96.

We also have to recognize some conformities such as the possibilities of the augmented triads. For example, a minor and a major pair which are triton distance from each other are the same as a major and minor pair with the same distance.[5]

This is a list of all the disjunct triad pairs:

Maj-maj: b2, 2, b5
Maj-min: 2, b3, b5
Maj-dim: 2, b3, p4
Maj-aug: b2, 2,

Min-maj: b2, 2, 3
Min-min: b2, 2, b5
Min-dim: 2, p4
Min-aug: b2, 2,

Dim-maj: b2, 3
Dim-min: b2, 2, 3
Dim-dim: b2
Dim-aug: b2, 2, 3, p4

Aug-maj: No
Aug-min: No
Aug-dim: No
Aug-aug: b2, 2

**Disjunct triad pairs possibility over the seventh chords**

I wanted to know what are the 12 different major, minor, dim. aug. triads compared to the Maj7 chord. First I took the Maj7/9/#11/13 chord as a main chord and then I checked all the 12 major triad over this Cmaj7 chord. The result demonstrated all of the triad possibilities over Cmaj7 chord. (C, D, G)
In general it is possible play over the **Maj7** chord a major triad from the Root, 9th, and 5th.

[5] Aved 1998, p.15.

It looks like this:

Over **C*Major7*/9/**#11 (Lydian sound)

**Major triads**

C (1-3-5)
C# (no)
D (9-11#-6)
D# (no)
E (3-5#-7) Cmaj7+
F (11-6-1) Cmaj7 Ionian
F# (no)
G (5-7-9)
G# (no)
A (no)
A# (no)
B (no)

Possibilities: from 1,5,9
Then I compared these three triads and I saw that two of them have no common note.
The C= (C, E, G) and the D= (D, F#, A)
When I put the notes in order it produced this hexaton scale:
C D E F# G A

It looks like this:

Over **Cmajor7**
Scale: **Lydian** 1,3,5,7, Extensions: 9, #11,13

Possible ***major triads*** over **Cmajor7**
From: 1,5,9

C: C E G (1, 3, 5)
G: G B D (1, 7, 9)
D: D F# A (9, #11, 6)

| Disjunct major triads: | Hexaton: |
|---|---|
| C-D | C D E F# G A |

I did the same with the minor, dim, and aug. triads over the main **CMaj7** chord.
I did exactly the same with all the other seventh chords:

Cmaj7 C lydian
Cmin76 C dorian
Cmin7b6 C aeolian
Cdom79=dom7b5 G melodic m.
Cdom7alt Db melodic m.
Cdom7sus4 C mix.
Cm7b5(m.m) Eb melodic m.

Cm7b5(h.m.)  Bb harmonic m.
Cmin.major7  C melodic m.
Cmaj7 #5  A melodic m.

I have attached all the result of the three natural systems and the two symmetrical systems at the end of the thesis. (See attachment page 31)

Now I know all of the possibilities over all the seventh chords so I can start to experiment with them.

**Experimenting with the same type of triad pairs over seventh chords**

I examine and I use just the same type of disjunct triad pairs because these pairs give me more interesting sound over the actual seventh chord. I was wondering what might be the reason for this. I found the different type of triad's sound to be "too diatonic". For example when I play a major and then a minor triad, which are in the same system over any seventh chord, it sounds too diatonic. In my opinion, is it is better to play two of the same type of triad chords.
At this point I have to mention the concept of the polytonality.

Description: Musical thinking from two or more tonality.

Two triads which are not in the same music system, can give us a polytonal environment. When we use two systems we call this bitonality. For example, if I play Db major and G major triad, this is bitonal thinking and I can play this over G7alt chord.

*"The triads that work in the improvisations use the following three rules:
They must come out of the scale we are using. They must not have any notes in common. Major and Augmented triads sound the best.*

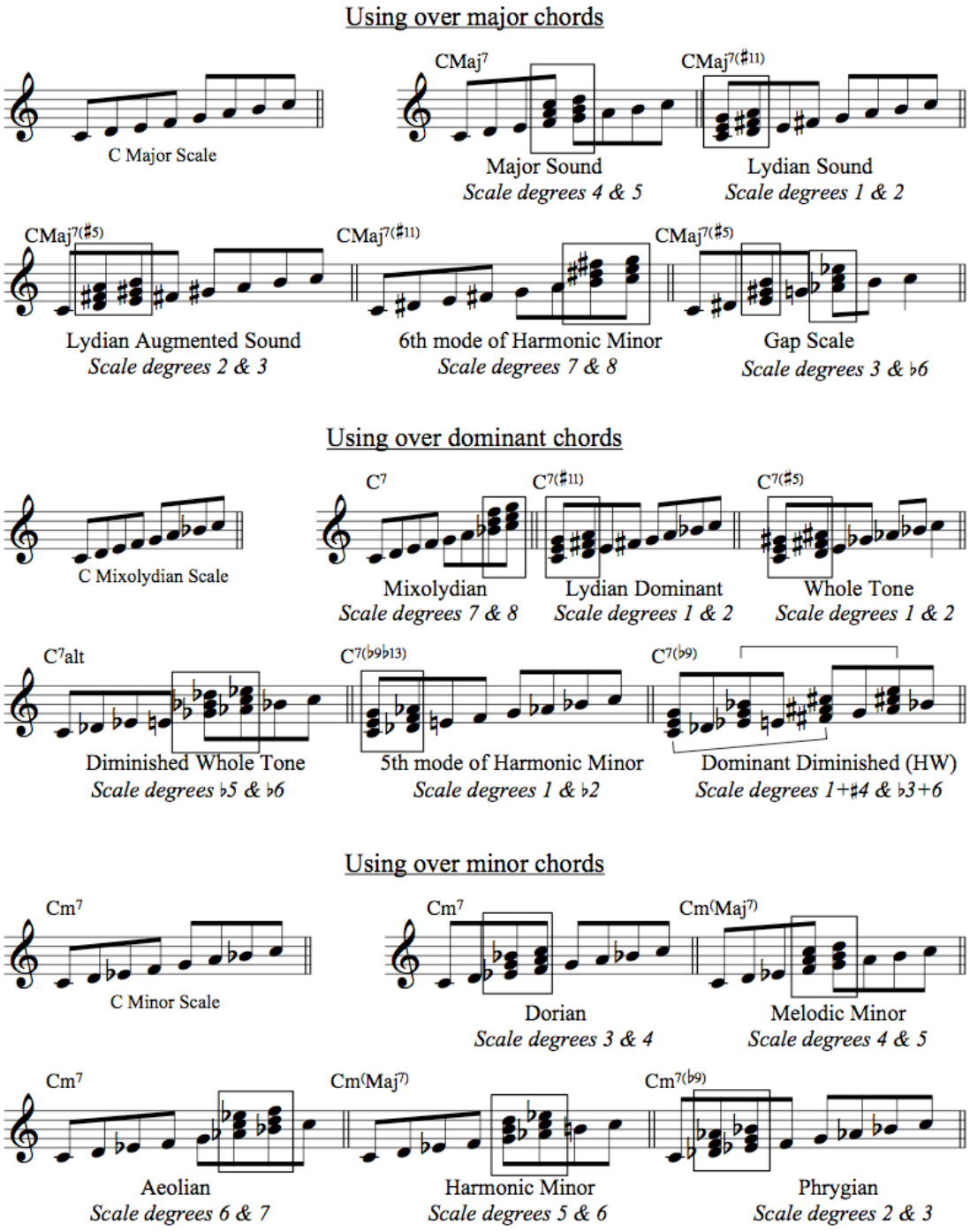
*In the major scale the only triads that work are scale degree 4 and 5 (F and G). These two, of course, can be used over any scale that is a mode of C Major
(D Dorian, E Phrygian, F Lydian, G Mixolydian, A Aeolian, B Locrian).*

*In the Harmonic Minor scale, the only pairs that work are on scale degrees 5 and 6. (G and Ab) Notice that the augmented triad on scale degree 3 can't be used because it shares notes in common with both of the other major triads.*

*From the melodic minor scale, we can make two triads on scale degree 5, one major and one augmented. So there are two possibilities of triad pairs from this scale and it's modes."* [6]

[6] Noppe 2008, p.11-12

Here is a nice selection of triad pair possibilities:

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7 Noppe 2008, p.12

## Examples

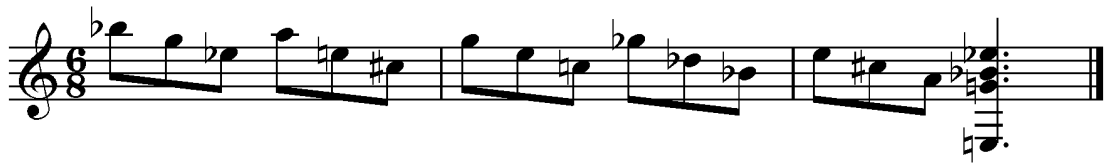
### Modern jazz guitarists and the triads

I wanted to figure out what the modern jazz musicians are doing in creating chords and voice-leadings or modern sequence melody out of the scales. I looked at in a vertical way and in a horizontal way as well.

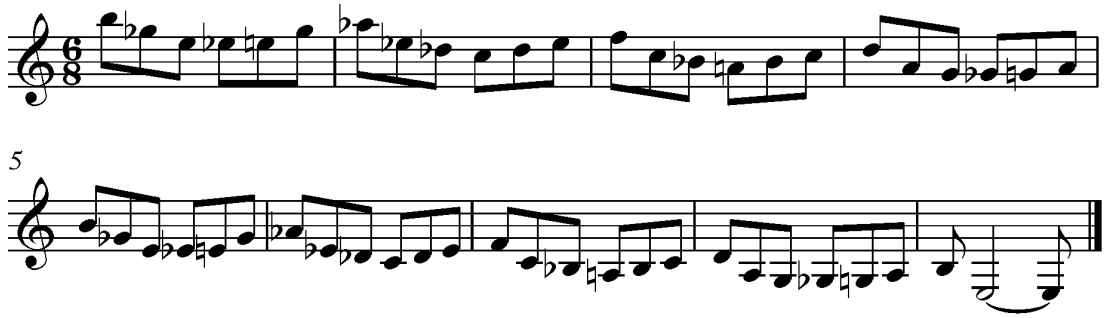
I think that Kurt Rosenwinkel uses the most interesting range of sounds that I like, so he represents the best example to research. I listened to him a lot and I transcribed some of his solo or musical ideas. When I analyzed his music I realized that he uses this kind of triad concept a lot. In the next examples I will share some of his ideas. He uses triads from the octatonic/diminished scale over Dominant7 chord.

### Kurt Rosenwinkel

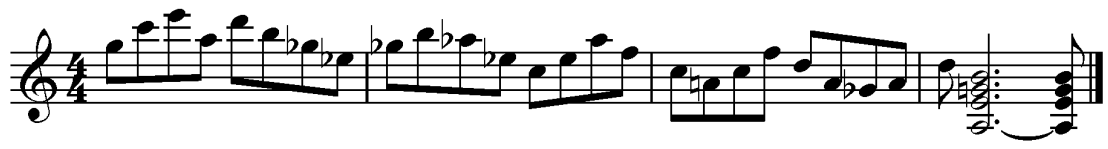
Eb7 – Mainly Eb diminished scale (Eb, C, F#, A, Eb/E=EdimMaj7)



Bb7 – Mainly Bb diminished scale (Bb, Ab, F, D) Resolving to “E”

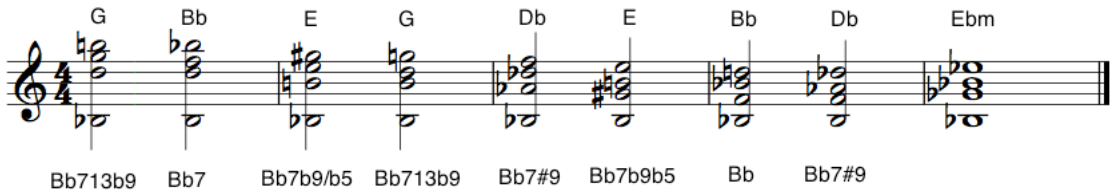



B7 – Mainly B diminished scale (B, Ab , F, D) Resolving to Am9

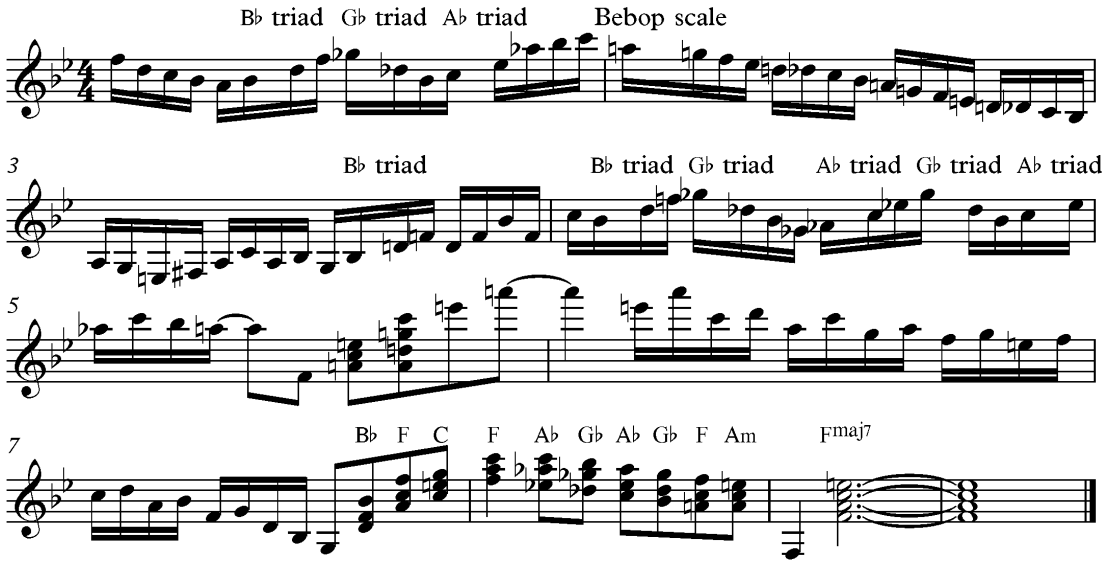


**Four triads and the diminished scale**

I have transcribed a very interesting line from Kurt Rosenwinkel's master class.
In the next example we can see how he uses triads over the Bb7 chord.
In this example Kurt uses 4 triads: G,Bb,D,Eb of the Bb diminished scale.
As we can see the bass is a Bb pedal and he plays major triads over that.

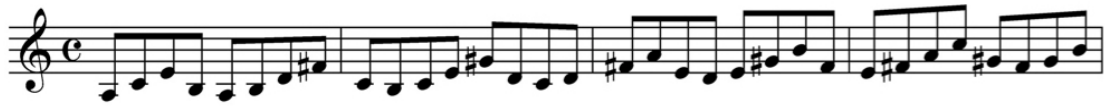



Another great line I have transcribed is with triads which sound good over C7.

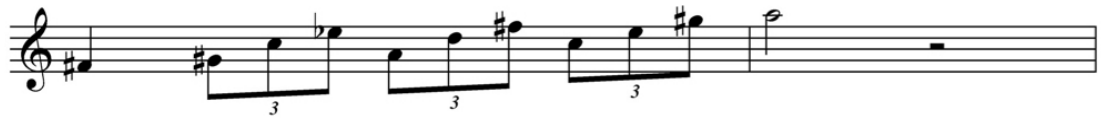



Here is another transcription of some of his triad lines from different songs.
He uses diatonic triad lines very often.

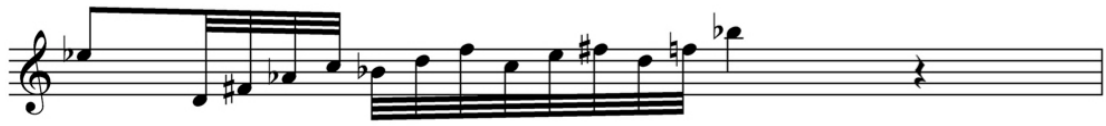
Cake 4:26 Deep song (A melodic minor – Cmaj7#5)



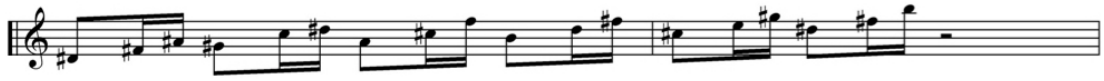
When Sunny gets blue 3:15  Intuit (D7alt.)



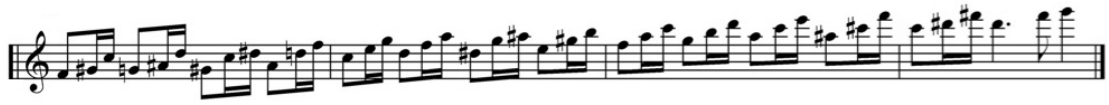
K.R. Standards Trio (Denver-Live)



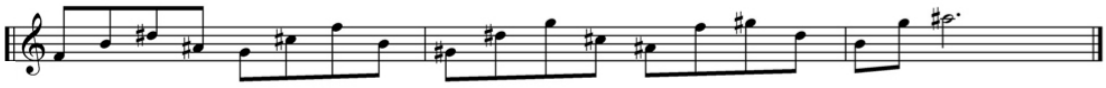
Ice fall 4:24 Chris Cheek-Wine



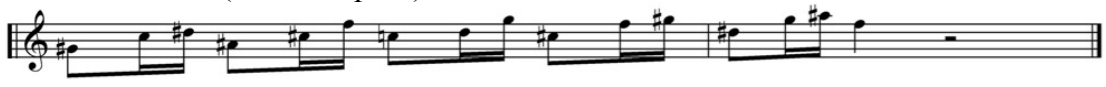
All or nothing at all 4:35 (East coast love affair)



The enemies of energy 2:54 (The enemies of energy)



Under it all 5:11 (Star of Jupiter)



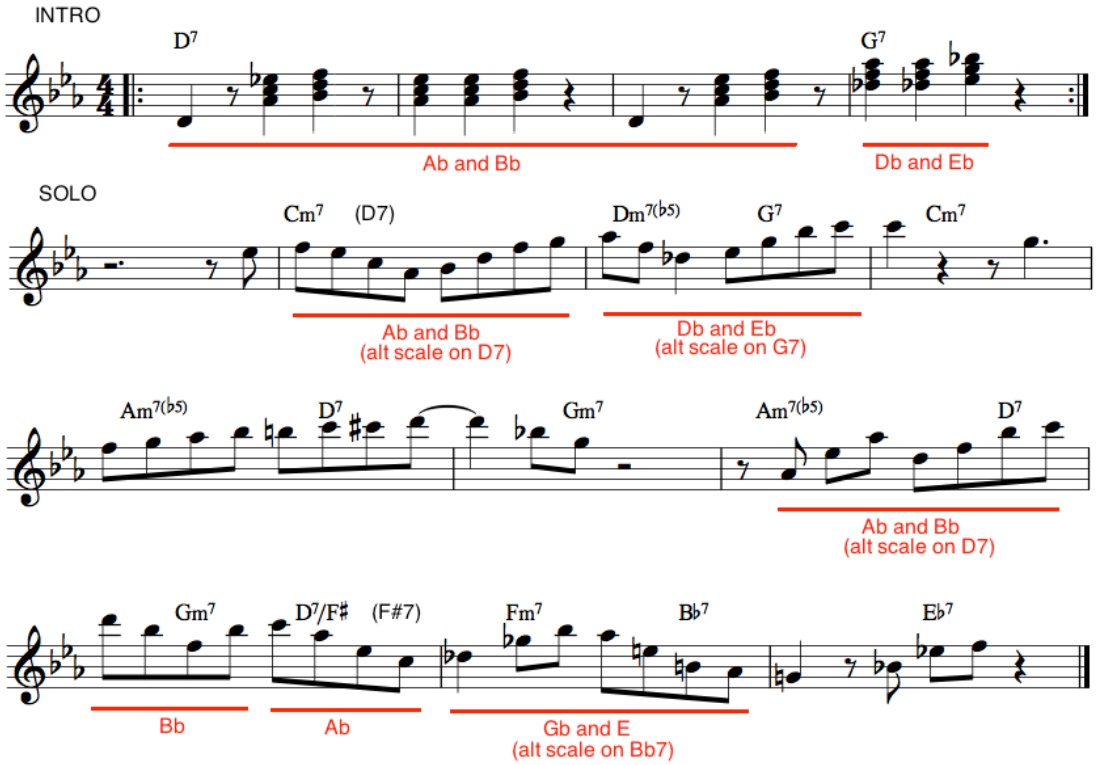
Kurt Rosenwinkel - How deep is the ocean /Intro/
(Intuit, 1999) [8]

Analysis of his intro:

We have 3 bars of D7 and one bar of G7. Rosenwinkel plays Ab major triad and Bb major triad over the D7 chord. He is thinking in Eb melodic minor system. Over G7 he plays Db major and Eb major triad which is actually in Ab melodic minor. So he uses the same idea.

We can find the same pattern at the very beginning of his solo.
In the first bar he plays descending Ab major, ascending Bb major arpeggio. And then descending Db major, Eb major arpeggio. Going forward to bar 6 we have 2-5 in Gm. He plays Ab major and Bb major triad again. On the 7th bar we have Gm7 and F#7 chords. He plays Bb major triad over the Gm7 chord and on F#7 he plays triad of Ab major. So the sound is Lydian dominant. (Db melodic minor). On the 8th bar we have 2-5 in Eb major and he plays Gb and E major triad. So he uses the Bb7altered sound on the Bb7 chord which is actually the Bmelodic minor scale.

Although the triads are simple material, we can see that we can create very interesting sounds with them. With this example I want to illustrate that the triads can be used in a horizontal way as well.

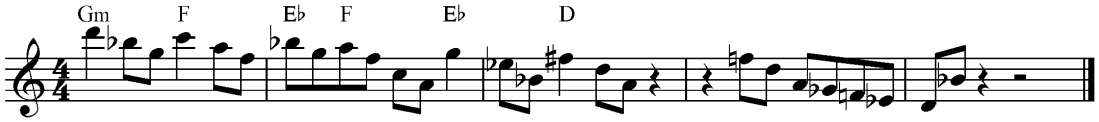



[8] Rosenwinkel 1999

**Adam Rogers**

Bobo 02:18 (Art of Invisible, 2012) F Jazz blues[9]

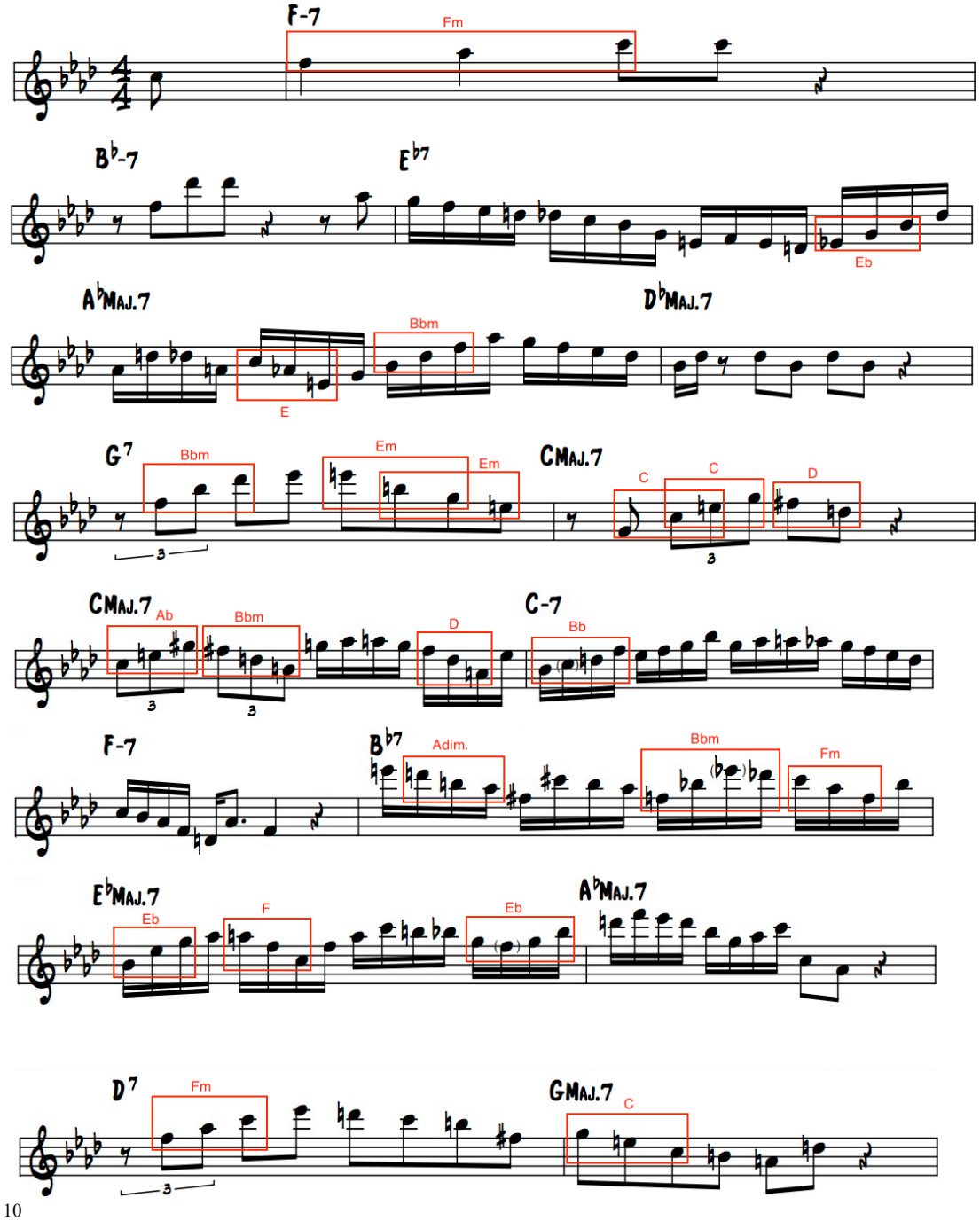
He is playing a variety of different triad arpeggios. Together they produce a really nice and interesting F7 line.
The first is a Gm which produces a SUS sound and then the second one is a F triad.
Then he plays Eb and F triad pair. (Bb melodic minor)
He then plays D triad which is producing F13/b9 sound.




[9] Rogers 2009

**Tony Greaves**

My analysis of his solo on "All the things you are" that uses strong triad concept.

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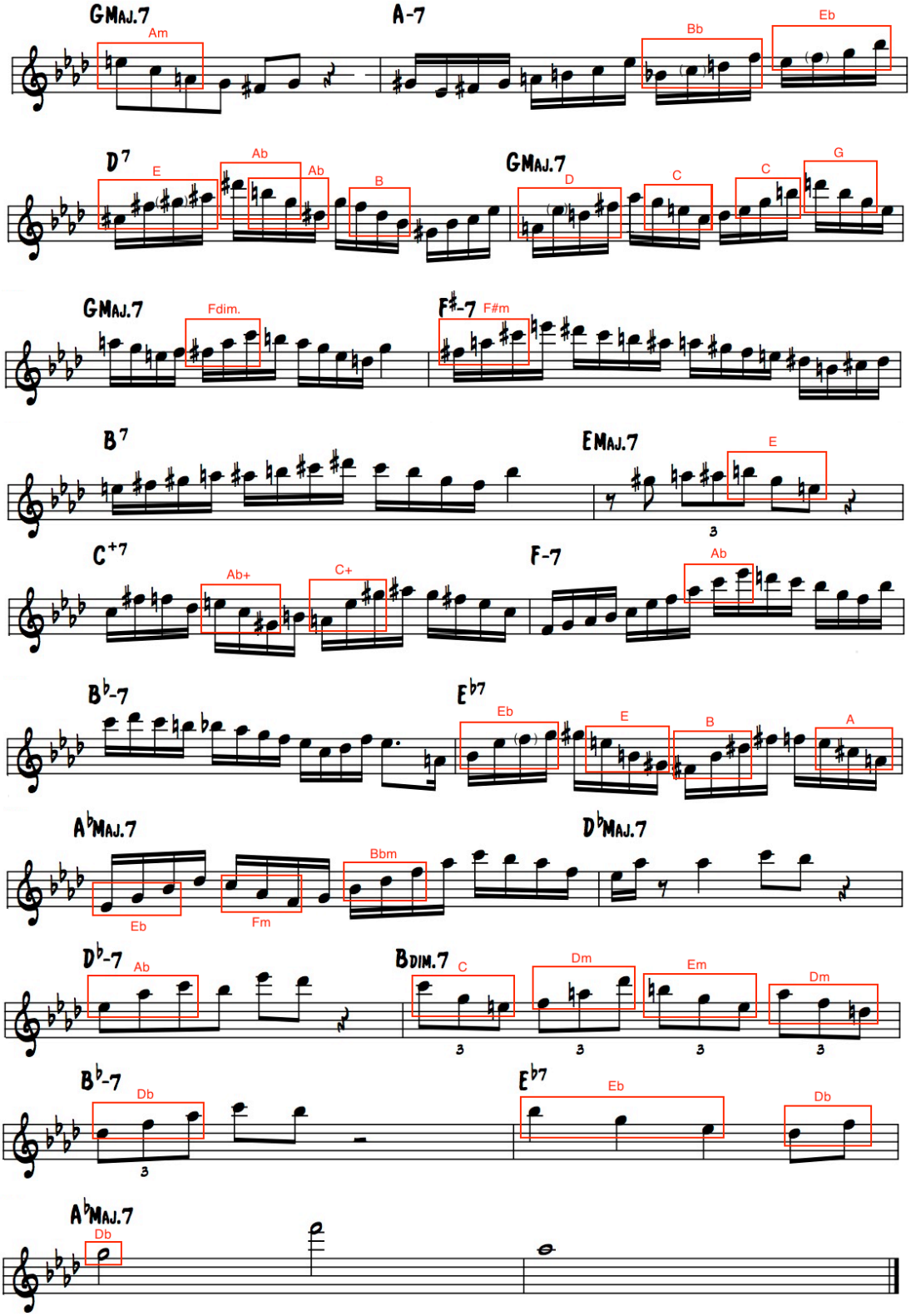
[10] Graves 2014 (image sent by composer, the analysis in red is mine)


GMAJ.7
Am
A-7
Bb
Eb
D7
E
Ab
Ab
B
GMAJ.7
D
C
C
G
GMAJ.7
Fdim.
F#-7
F#m
B7
EMAJ.7
E
C+7
Ab+
C+
F-7
Ab
Bb-7
Eb7
Eb
E
B
A
AbMAJ.7
Bbm
Eb
Fm
DbMAJ.7
Db-7
Ab
BDIM.7
C
Dm
Em
Dm
Bb-7
Db
Eb7
Eb
Db
AbMAJ.7
Db

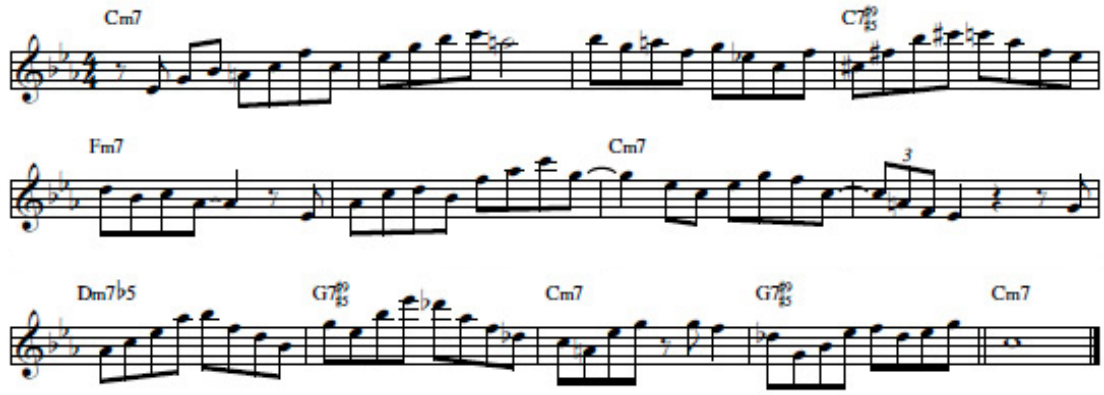
**11**

[11] Ibid

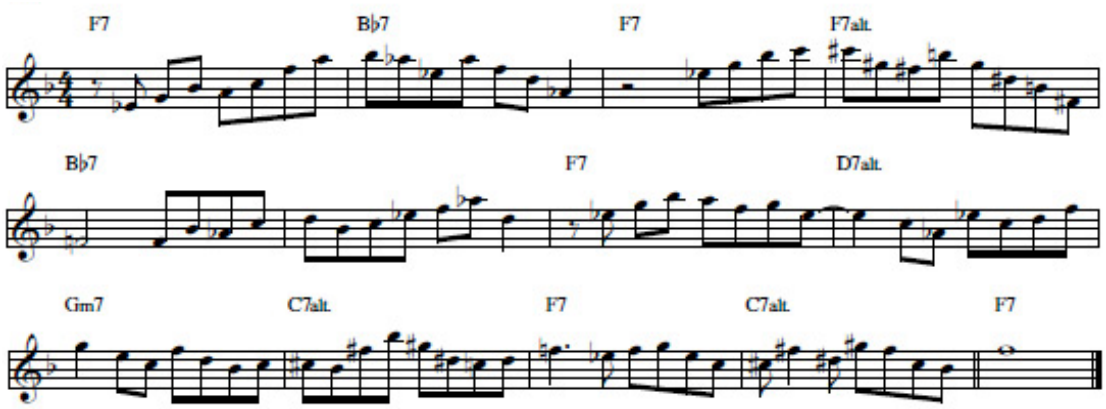
**Applying triad pairs in blues in a horizontal way**

Next, I am going to look at the application of this scale first over a minor and then major jazz-blues progression. Over the chords, let's take the notes from major triads built on two tones which are next to each other depending on what type of sound we are looking for.

For example, over Cm7, we are going to use the Eb and F major triads, and for Fm7, we use Ab and Bb major triads. On the altered-dominant chords in bar 4, 10, and 12, we use triads built up on the b6 and the b5 scale degrees. The same idea works also over minor 7b5 chords, just like in measure 9.




Let's see how this works over dominant blues. Over the dominant chords, we build triads on the root and b7 of the chords. As we can see the solo starts on an Eb major triad in the first bar and then moves to a first-inversion F major triad. It sounds very nice and bright in my opinion.

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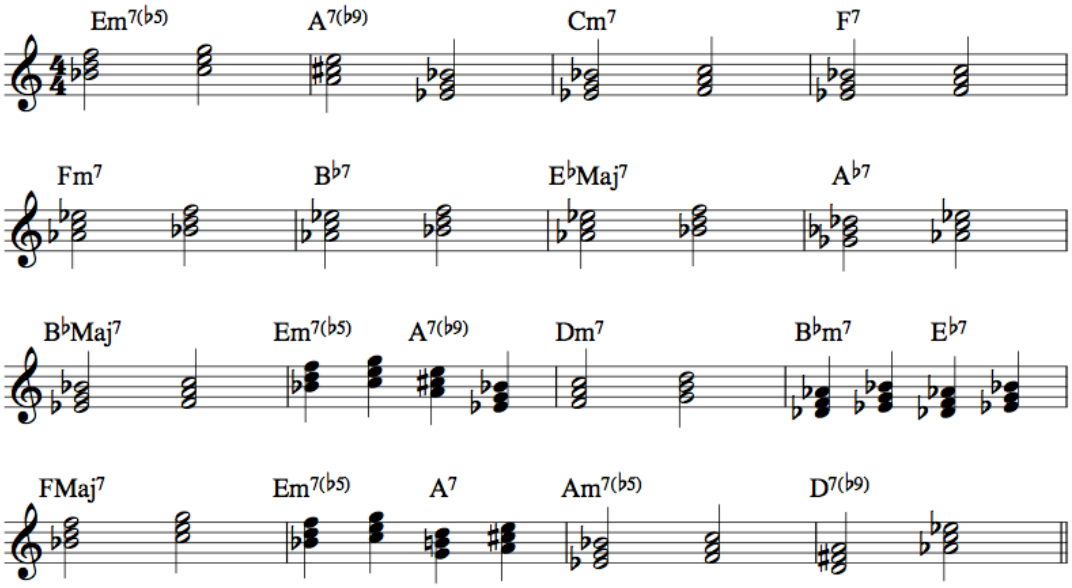
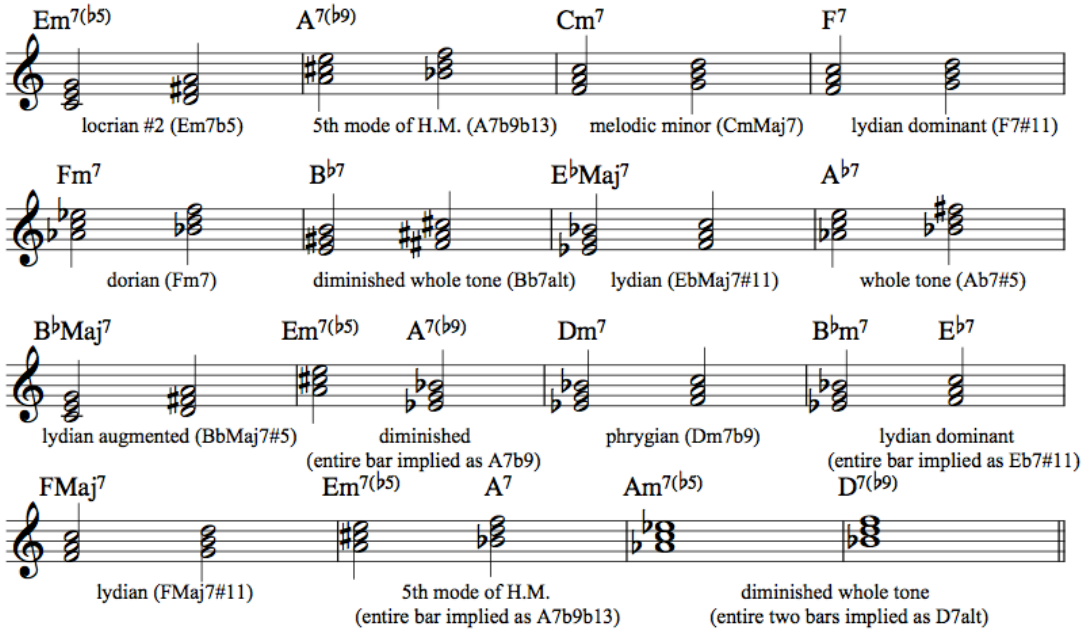
[12] Saunders June, 2014

## Applying triad pairs in a standard in a vertical way

Stella by starlight:




More complex solution:

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[13] Noppe 2008, p.15

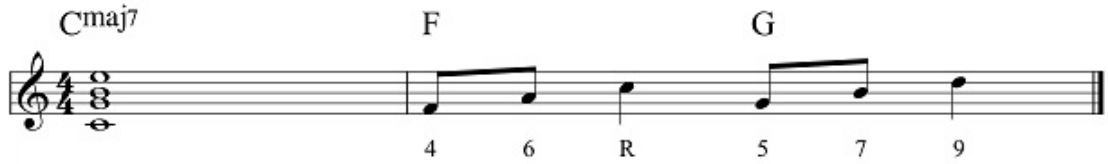
**How to create own patterns**

I also wanted to apply, not only understand this concept in my solos and in my compositions. I have collected my favorite disjunct triad pair sounds over each seventh chords and then I started to use them. In the next part I will share some of my ideas.

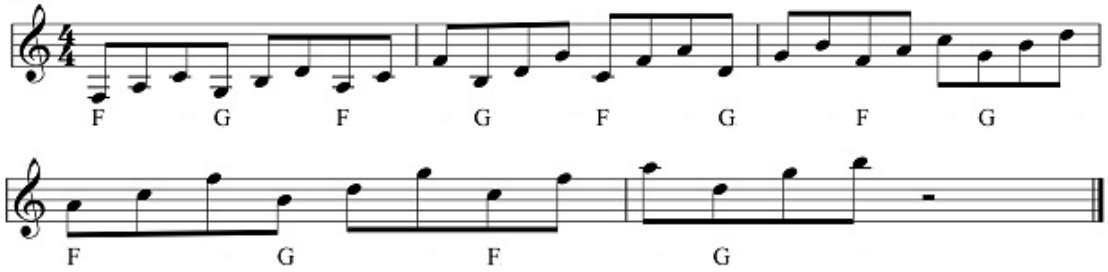
**Triad pair ideas over seventh chords:**

**Major7**

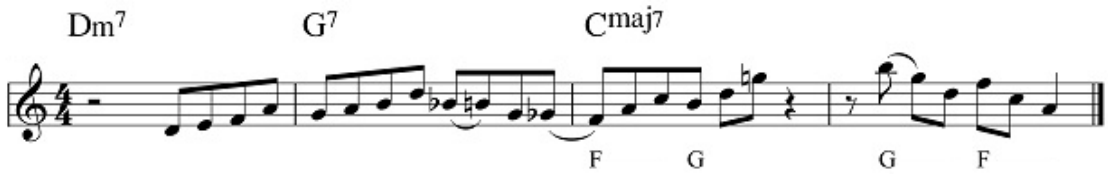
The major triads built from the 4th and 5th notes of the major scale. In the key of C, it is F and G over the Cmaj7 chord.




When I play F and G over Cmaj7, we find the intervals 4,6,R and 5,7,9, so actually a C major scale without the third.
These triads, although they use most of the notes in the major scale, if we organize these notes in triads then we get a different sound compared to the scale.

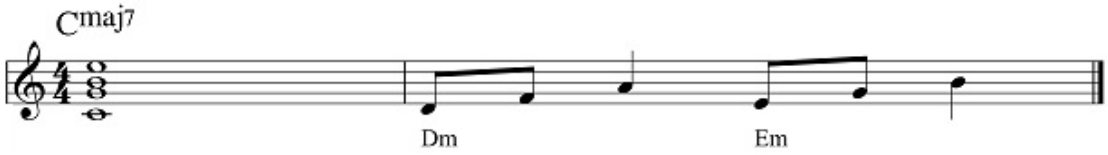



Here is an example of a II V I line in C where I used F and G triads.

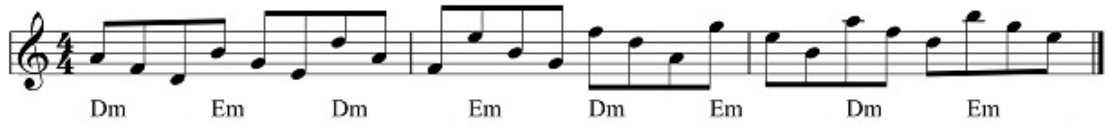



Besides playing major triad pairs over maj7 chords, we can also use minor triad-pairs to express maj7 chord from a different point of view.

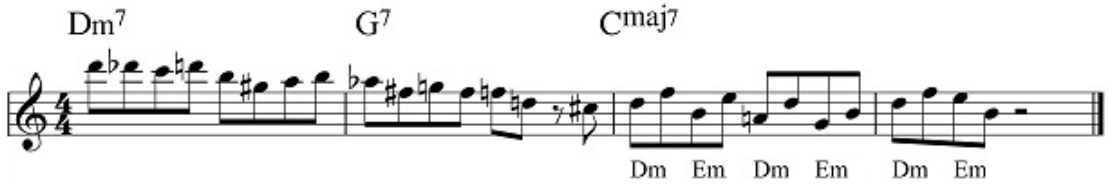
Now I will be using the minor triads from the 2nd and 3rd notes of the C major scale. These triads are the Dm and Em triads.




The Dm chord shows the intervals 2,4,6, while the Em produces the intervals 3,5,7. This triad pair gives us actually the notes of the major scale without the root.

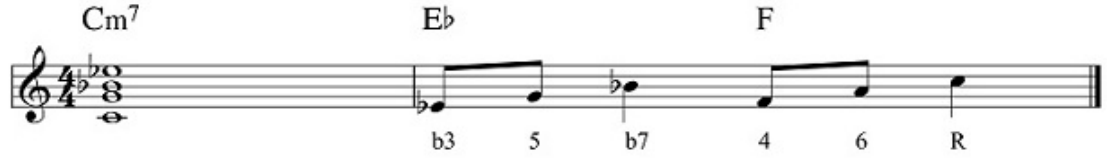



Here is an example II V I line in the key of C major where I use the Dm and Em triads.

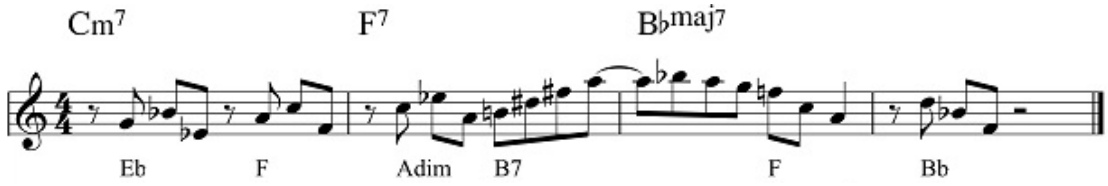



**Minor7**

The first m7 triad pair contains a major triad from the b3 and 4 of the chord underneath it, such as the F and Eb triads over the Cm7 chord like demonstrated below. We can see that the F triad produces the intervals 4,6,R and the Eb triad produces the b3-5-b7. The 2nd note from the dorian mode is left out.

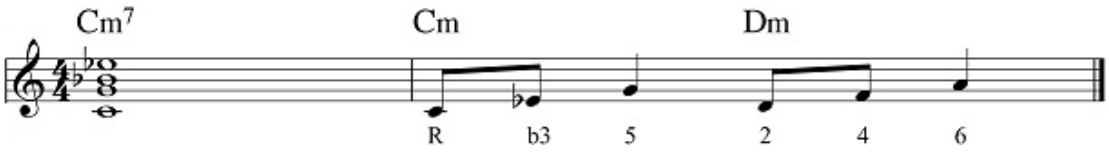



In the next example the application of the Eb and F triad over the Cm7 chord in a II V I progression can be seen in the key of Bb.

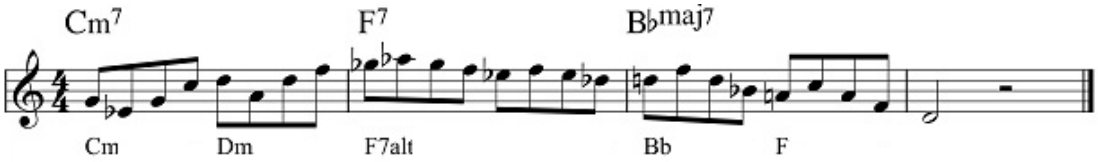



In the next example the m7 triad pair presents two minor triads from the root and 2nd note of the m7 chord underneath it.

Six Dorian mode notes out of seven will be played. The b7 is left out. Since this is a new way of building lines, it will yield a whole new sound.

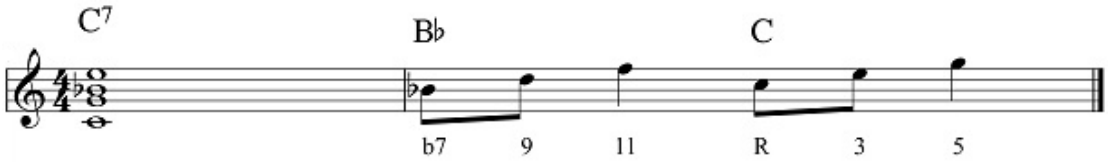



Here is another example over a II V I in Bb major.



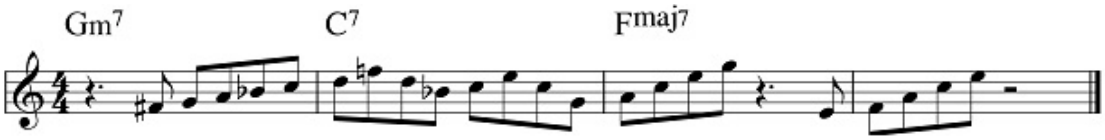

**Dominant7**

The 7th triad pair uses major triads from the b7 and Root of the dominant7 chord. So if we are improvising over a C7 chord, then we can use both the Bb and C major triad pair.

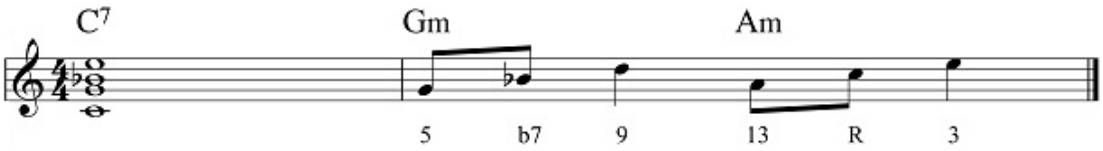



With the Bb triad we get the intervals b7,9,11 over C7, and the C triad is the R,3,5 of the chord underneath it**.**

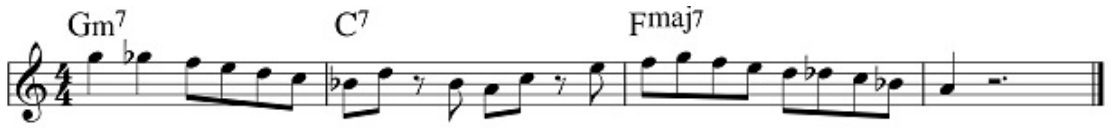
Here is an example over a II V I in the key of F major, where I used the Bb and C triads to express the C7.




We can also build 7th chord lines by playing minor triads from the 5th and 6th of the dominant7 chord underneath it.

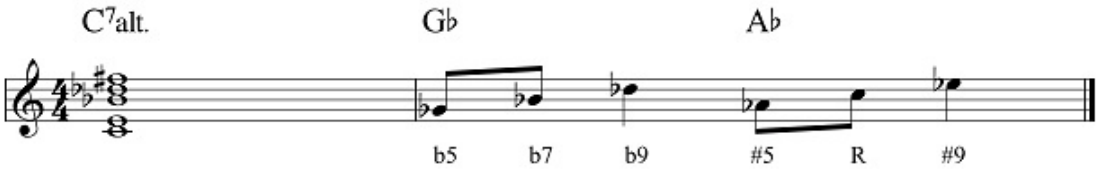


The Gm triad produces the intervals 5,7,9, and the Am triad produces the intervals 6,R,3. Only six of the seven notes from the related Mixolydian scale is being played and the 11this left out.
This is an example of a line where I use the Gm and Am triads over the C7 chord.



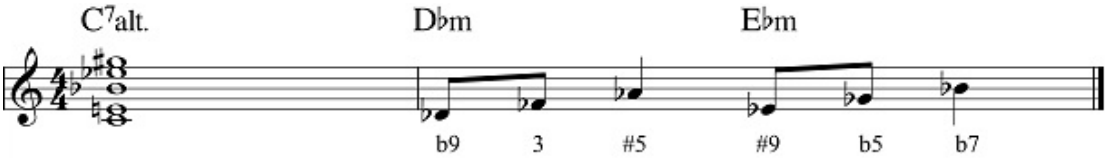

**Dominant7 ALT**

The next example of 7alt triad pairs involves playing major triads from the b5 and #5 of the actual chord. The Gb and the Ab triad over a C7alt chord works great.

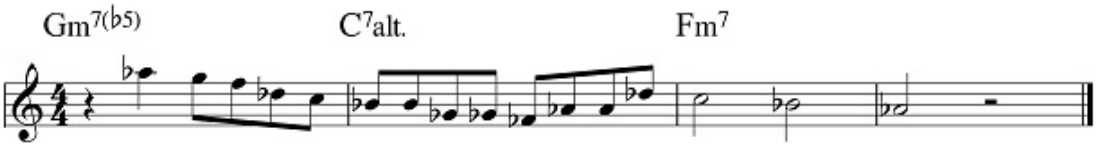



These two triads are a perfect choice to express any altered chord. The altered notes are the b5, b9, #5 and #9.

The following 7alt chord uses two minor triads, built up on the b9 and #9 of the C7alt chord.

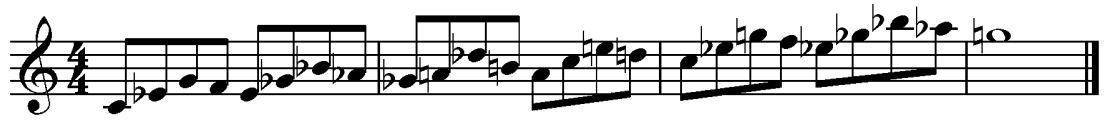



At last, here is an example of minor key II V I, using the b9 and #9 triad pairs.

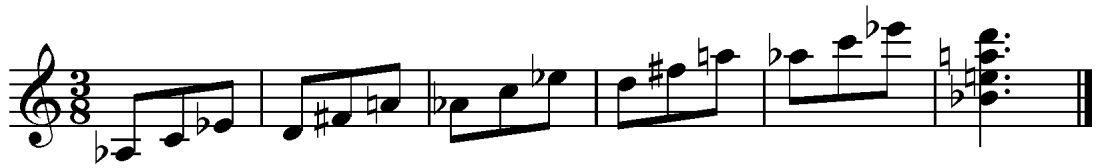


In the next examples I will share some more ideas of mine over altered Dominant7alt chord:

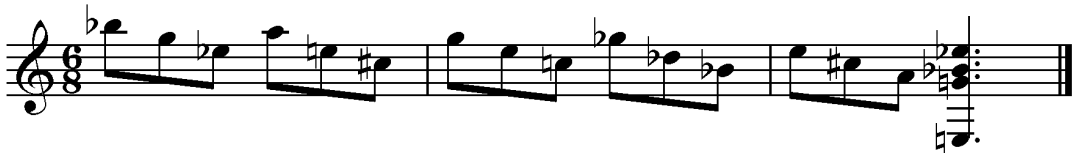
C7 – Mainly C diminished scale (Cm, Ebm, F#m, Am)



D7 – Mainly D diminished scale  (G-Db major triad line)

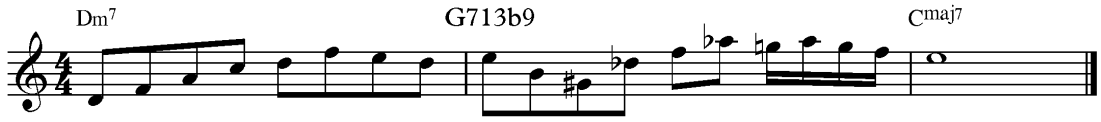


Eb7 – Mainly Eb Diminished scale (Eb, A, C, F#) to Eb/E=EdimMAJ7=Eb7b9

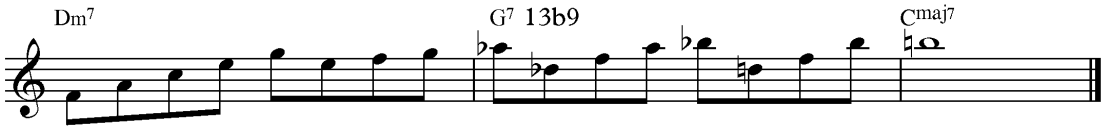


The next examples show how to use major triad pairs over C major II V I progression.

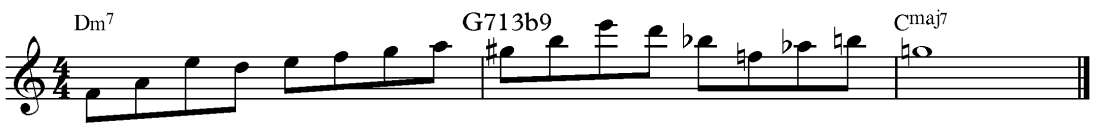
First I play an E and then a Db major triad.



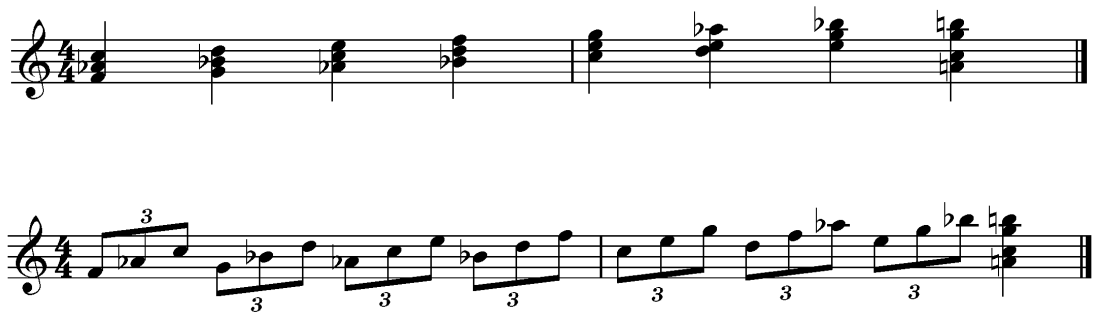

On the G7 I play Db and then Bb major triad.




The line on the G7 contains an E triad and a Bb triad followed by the b9 and the third.



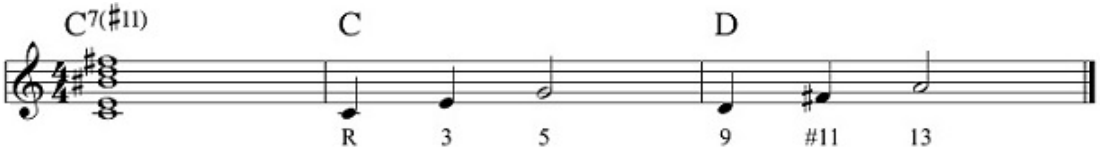
Below I have demonstrated an example in F melodic minor which can work over a E7 alt**.** chord. We can start the pattern at the root of F melodic minor This will work on Bb7#11 as well.



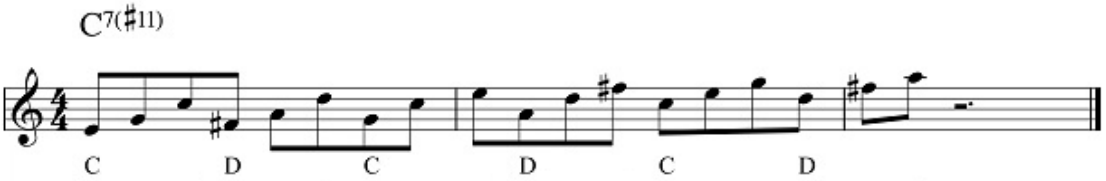
**Dominant7 #11**

We can use the fourth mode of melodic minor scale over Dom7#11 chords. But we can also choose simple major or diminished triads to create lines. They both sound nice I think and express the altered chord very well.

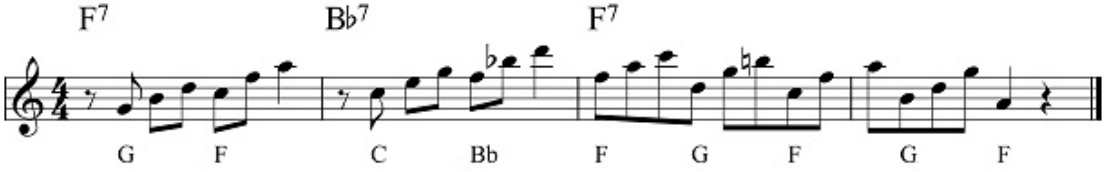
The first Dom7#11 triad pair in my example uses major triads built up on the root and 2nd of the chord. When we play C and D over C7#11, we get the intervals R-3-5 and 9-#11-13, so the basic triad and all of the extensions. I also used the same major triad pair over the Cmaj7 chord.




Here is an example of this over C7#11.

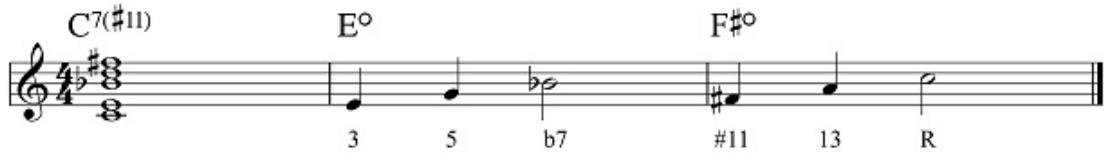



Finally we can see how this applies in an F Blues chord progression.

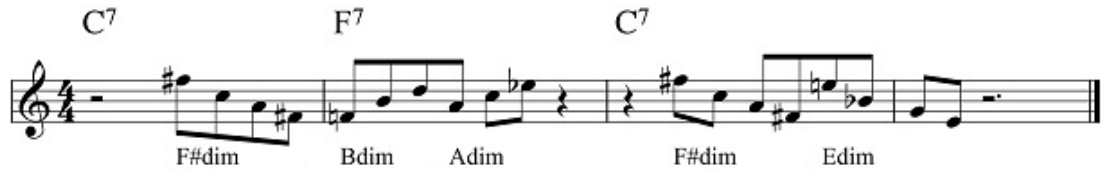



The next example of 7#11 triad pairs involve a diminished triad from the 3rd and #11 chord underneath it.

When we play Edim and F#dim over C7#11, we get the intervals 3,5,b7 and #11,13,R.

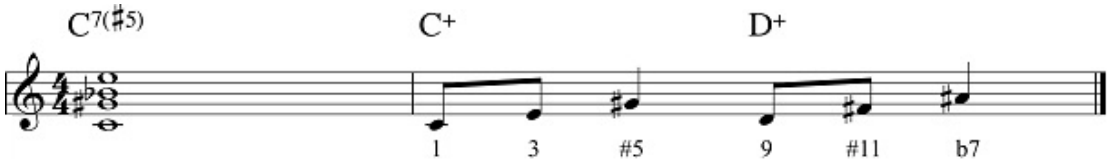



Here is an example how to use the Edim and F#dim triads over a C7#11 chord.




**Dominant7 #5**

The triad pair that we will look at presents an augmented triad built up on the root and 2nd notes of the C7#5 chord. (C+, D+)

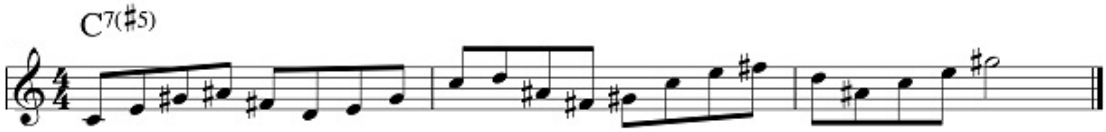



I have noticed that those two triads actually produce two other triads. So we will have 6 possible augmented triads that we can use over 7#5 chords.

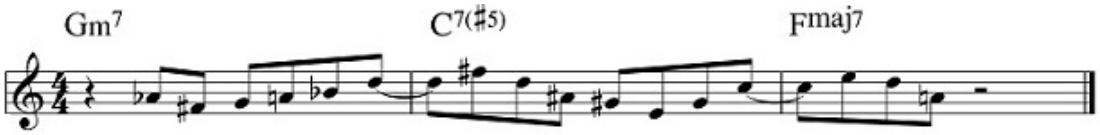
C+ = C E G#
E+ = E G# B#(C)
G#+ = G# B#(C) D#(E)

D+ = D F# A#
F#+ = F# A# Cx(D)
A#+ = A# C#(D) E#(F#)

We can see these triads in this line:

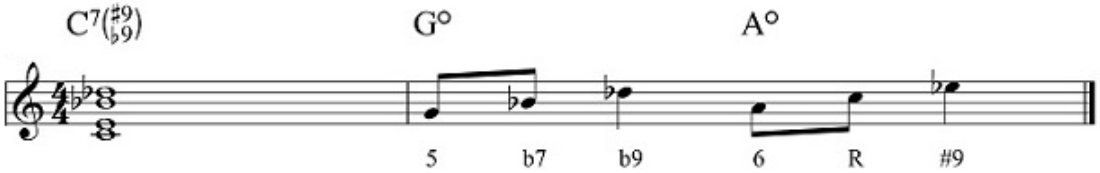


In the next F major II V I example I use the mentioned augmented triad pair concept.

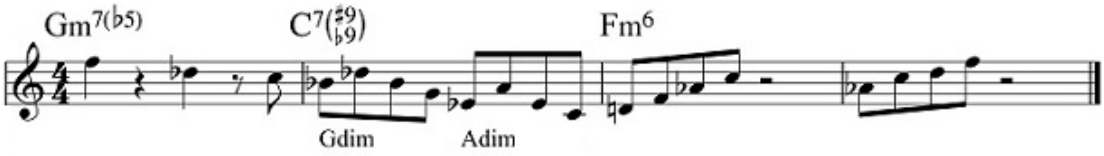



**Dominant7 b9#9**

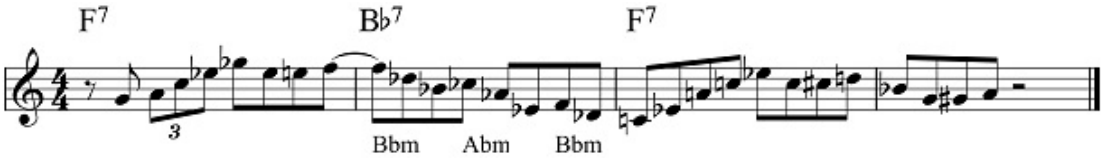
The first triad pair we will examine uses two diminished triads based on the 5th and 6th of the chord underneath it. (Gdim, Adim)




This is sample of Gdim and Adim 7b9#9 triad pair over the V7alt chord.

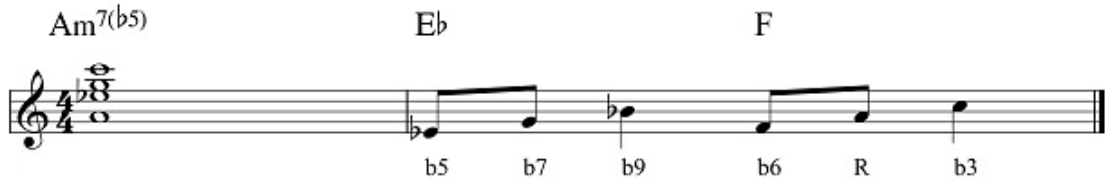



In the next we will use minor triads from the b7 and Root of the actual chord.
We are getting the notes of the chord, without the 3rd, and both b9 and #9, giving the sound of the Bb7b9#9. This is a first four bars of an F blues.

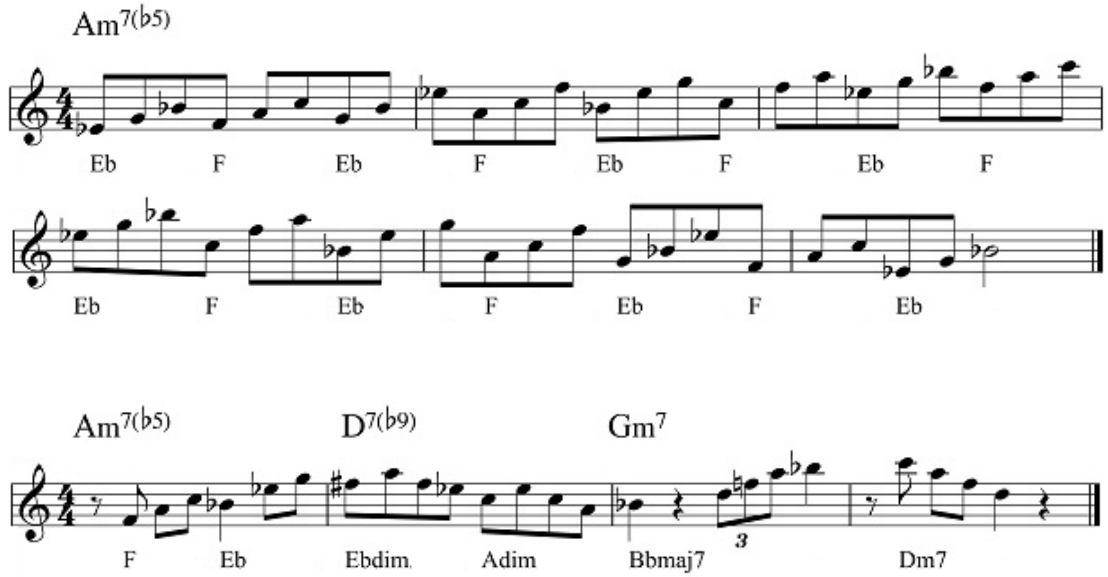


**Minor7b5**

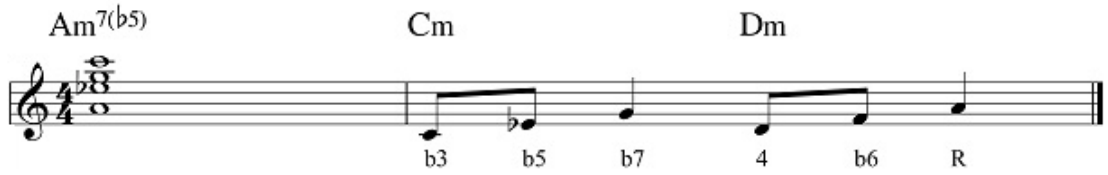
The first group of the triad pairs presents major triads over the Minor7b5 chord.
One triad from the b5 and one from the b6 of the scale.
So, if we have an Am7b5 chord, we could play an Eb and F triad pair.



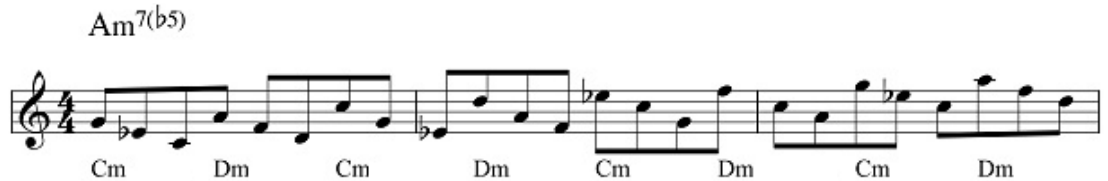

The Eb triad shows the intervals b5, b7, b9, and the F triad produces the intervals b6, R ,b3.

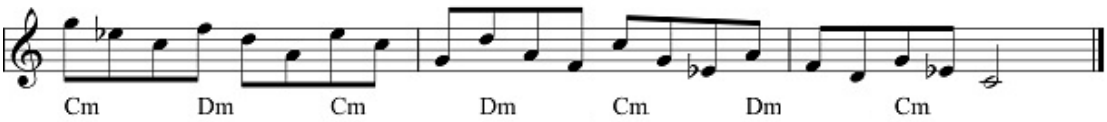



Now I will take a look at the minor triads.

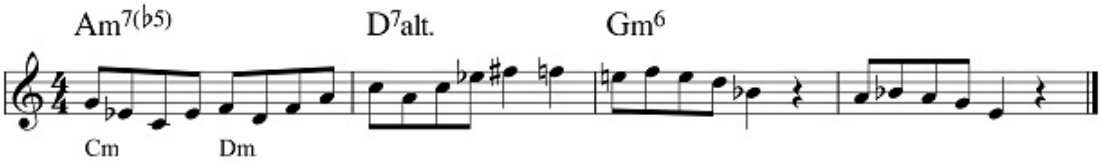



The Cm triad provides the intervals b3, b5, b7, and the Dm triad produces the intervals R, 4, b5.

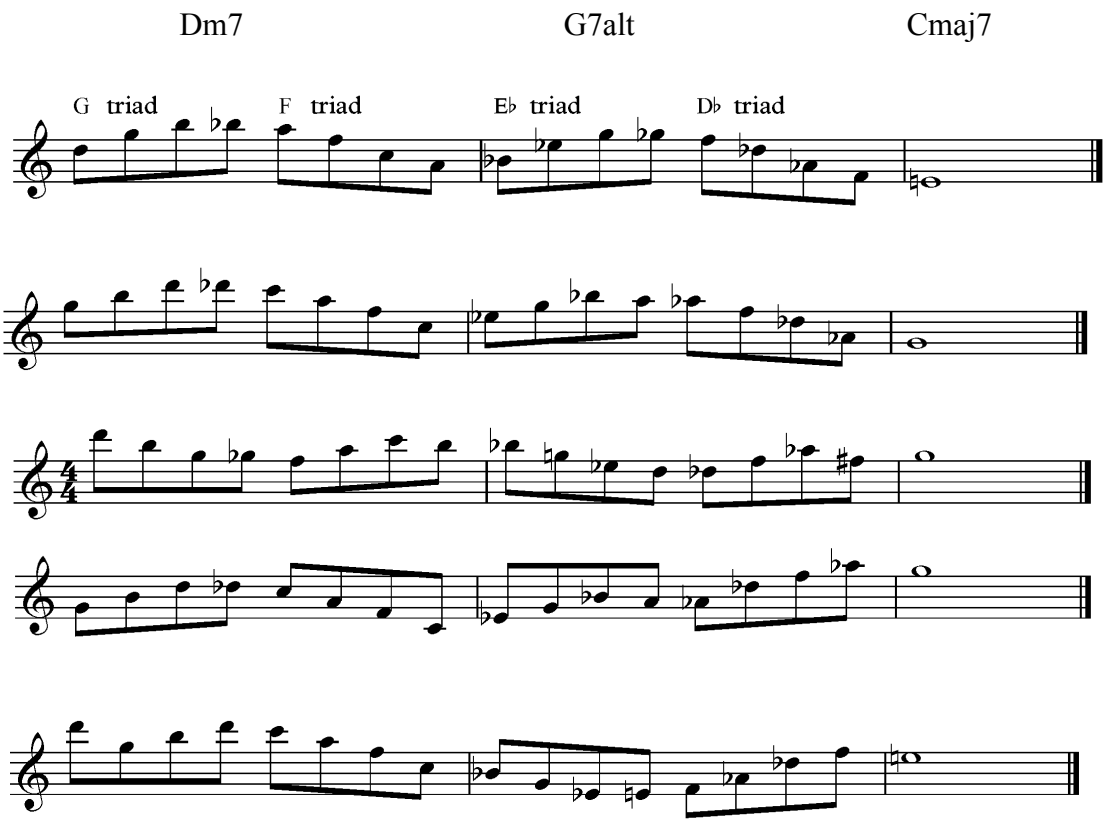





Here is another musical example in G minor key:




Some other Cmajor II V I ideas with the same triad pairs:



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http://www.premierguitar.com/articles/Beyond_Blues_Hexatonic_Scales
Last accessed on: February 10, 2015


## ***Attachment***

-Result of the possible triads over the seventh chords
-Disjunct triad pairs and their hexaton scale over the seventh chords
-Disjunct triad pairs and their hexatonic scale in the octatonic and augmented system

**Result of the possible triads over the seventh chords**

**Over Major7 chord (Ionian)**

MAJOR triad from 1,5
MINOR triad from 2,3,6,
DIM. triad from 7
AUG. triad from no

**Over Major7 chord (Lydian)**

MAJOR triad from 1,5,9
MINOR triad from 3,6,7
DIM. triad from 11#
AUG. triad from no

**Over Minor7 chord ( Dorian)**

MAJOR triad from 3b,11,7b
MINOR triad from 1,5,9
DIM. triad from 6
AUG. triad from NO

**Over Minor7 chord (Aeolian)**

MAJOR triad from 3b,b6, b7
MINOR triad from 1, 5, 11
DIM. triad from 9
AUG. triad from NO

**Over dom79 or b5 chord (static) (Gm.m.: 1 3 5 b7 9** #11 6)

MAJOR triad from 1,9
MINOR triad from 5,6
DIM. triad from 3, #11
AUG. triad from 9, #11, b7

**Over dom7 ALT** (b5#5b9#9) 1 3 b7 (m.m.)

MAJOR triad from b5 #5
MINOR triad from b9, #9
DIM. triad from 1, b7
AUG. triad from 1, 3, 5#

**Over dom7 SUS4 chord = Mixolidian**

MAJOR triad from 1, 11, b7
MINOR triad from 9,5,6,
DIM. triad from 3
AUG. triad from no

**Over Minor7b5 chord (melodic minor sound)**

MAJOR triad from b6
MINOR triad from b3, 11
DIM. triad from 1, 9
AUG. triad from 9, b5, b7

**Over Minor7b5 chord (harmonic minor sound)**

MAJOR triad from 11 b5
MINOR triad from b3, b5, b7
DIM. triad from 1,b3, b5, 6
AUG. triad from b9, 11,6

**Over min.MAJ7 chord (melodic minor)**

MAJOR triad from 11, 5
MINOR triad from 1, 9
DIM. triad from 6, 7
AUG. triad from NO

**Over aug.Maj7 chord (Lydian augmented)**

MAJOR triad from 1, 9, 3, 5
MINOR triad from 3, 6, 7
DIM. triad from #11, #5
AUG. triad from 1, 3, #5

**Disjunct triad pairs and their hexaton scale over the seventh chords**

maj7, min76, min7b6, dom79=dom7b5, dom7alt, dom7sus4, m7b5(m.m), m7b5(h.m.)

Over **Cmajor7**
Scale: **Ionian** 1,3,5,7, extensions: 9, 11,13

Possible ***major triads*** over **Cmajor7**
From: 1,5

C: C E G (1, 3, 5)
G: G B D (1, 7, 9)

Disjunct major triads: No Hexatons: No

Over **Cmajor7**
Scale: **Lydian** 1,3,5,7, extensions: 9, #11,13

Possible ***major triads*** over **Cmajor7**
From: 1,5,9

C: C E G (1, 3, 5)
G: G B D (1, 7, 9)
D: D F# A (9, #11, 6)

Disjunct major triads: Hexatons:
C-D C D E F# G A

Possible ***minor triads*** over **Cmajor7**
From: 3, 6, 7

Em: E G B (3, 5, 7)
Am: G B D (5, 7,9)
Bm: B D F# (7, 9, #11)

Disjunct minor triads: No Hexaton: No

Possible ***dim. triads*** over **Cmajor7**
From: #11

F#dim: F# A C (#11, 6, 1)

Disjunct dim. triads: No Hexaton: No

Possible ***aug. triads*** over **Cmajor7**

There is not!

Disjunct aug. triads: No Hexatons: No

Over **Cminor7**
Scale: **Dorian** 1,b3, 5, b7 extensions: 9,11,6

Possible ***major triads*** over **Cminor7**
From: 3b,11,7b

Eb: Eb G Bb (b3, 5, b7)
F: F A C (11, 6, 1)
Bb: Bb D F (b7, 9, 11)

Disjunct major triads: Hexaton

Eb-F Eb F G A Bb C

Possible ***minor triads*** over **Cminor7**
From: 1,5,9

Cm: C Eb G (1, b3, 5)
Gm: G Bb D (5, b7, 9)
Dm: D F A (9, 11, 6)

Disjunct minor triads: Hexatons:
Cm-Dm C D Eb F G A

Possible ***dim. triads*** over **Cmajor7**
from 6

Adim: A C Eb (6, 1, b3)

Disjunct dim. triads: No Hexaton: No

Possible ***aug. triads*** over **Cminor7**

There is not!

Over **Cminor7**
Scale: **Aeolian** 1,b3,5,b7 ext: 9,11,b6

Possible ***major triads*** over **Cminor7**
from 3b,6b,7b

Eb: Eb G Bb (b3, 5, b7)

Ab: Ab C Eb ( b6, 1, b3)
Bb: Bb D F (b7, 9, 11)

Disjunct major triads: Hexatons:
Ab-Bb Ab Bb C D Eb F

Possible ***minor triads*** over **Cminor7**
From: 1,5,11

Cm: C Eb G (1, b3, 5)
Gm: G Bb D (5, b7, 9)
Fm: F Ab C (11, b6, 1)

Disjunct minor triads: Hexatons:
Gm-Fm G Ab Bb C D F

Possible ***dim. triads*** over **Cminor7**
from 9

Ddim: D F Ab (9, 11, b6)

Disjunct dim. triads: No Hexaton: No

Possible ***aug. triads*** over **Cminor7**

There is not!

Over **C79** (static) or **C7b5**
Scale: **G-melodic minor:** 1 3 5 7 extensions: 9 #11 13

Possible ***major triads*** over **C79, C7b5**
from 1, 9

C: C E G (1, 3, 5)
D: D F# A (9, #11, 6)

Disjunct major triads: Hexaton

C-D C D E F# G A

Possible ***minor triads*** over **C7 , C7b5**
From: 5, 6

Gm: G Bb D (5, b7, 9)
Am: A C E (6, 1, 3)

Disjunct minor triads: Hexaton:
Gm-Am G A Bb C D E

Possible ***dim. triads*** over **C7 , C7b5**
From: 3, #11

Edim: E G Bb (3, 5, b7)

F# dim: F# A C (#11, 6, 1)

Disjunct dim. triads: Hexaton:
E dim- F#dim E F# G A Bb C

Possible ***aug. triads*** over **C7 , C7b5**
From: 9, #11, b7

Daug: D F# A# (9, #11, b7)

F#aug: F# A# C##=D (#11, b7, 9)

Bb aug: Bb D F# (b7, 9, #11)

Disjunct aug. triads: There is not!

Over ***C dom7*** **altered**
**Scale: C**# melodic m.: 1 3 b7 extensions: #5 b5 b9 #9

Possible ***major triads*** over **C7 alt**
From: b5, #5

F#: F# A# C#
D#: D# F##=G A#

Disjunct major triads: There is not!

Possible ***minor triads*** over **C7 alt**
From: b9 #9

Db m: Db Fb=E Ab (b9, 3, #5)
D# m: D# F# A# (b9, b5, b7)

Disjunct minor triads: Hexatons:

Db m - D# m Db D# Fb=E F# Ab A#

Possible ***dim. triads*** over **C7 alt**
From: 1, b7

Cdim: C Eb Gb (1 #9 b5)

Bb dim: Bb Db Fb=E (b7 b9 3)
Disjunct dim. triads: Hexatons:
Cdim – Bb dim C Db Eb Fb=E Gb Bb

Possible ***aug. triads*** over **C7 alt**
From: 1, 3, #5

Caug: C E G#
Eaug: E G# B#=C
G#aug: G# B#=C D##=E

Disjunct aug. triads: There is not!

Over ***C dom7*** **SUS4**
**Scale: C** mixolidian: 1 3 5 b7 extensions: 9, 11, 6

Possible ***major triads*** over **C7 SUS4**
From: 1, 11, b7

C: C E G (1,3,5)
F: F A C (11,6,1)
Bb: Bb D F (b7,9,11)

Disjunct major triads: Hexatons:
C-Bb C D E F G Bb

Possible ***minor triads*** over **C7 SUS4**
From: 5,6,9

Dm: D F A (9,11,6)
Am: A C E (6,1,3)
Gm: G Bb D (5,b7,9)

Disjunct major triads: Hexatons:
Am-Gm A Bb C D E G

Possible ***dim. triads*** over **C7 SUS4**
From: 3

Edim: E G Bb (3, 5, b7)

Disjunct major triads: There is not!
Hexatons: No

Possible ***aug. triads*** over **C7 SUS4**
From: There is not!

Disjunct major triads: There is not!

Hexatons: No

Over ***Cm7b5*** Melodic minor sound!
**Scale:** Eb mel. minor: 1, b3, b5, b7 extensions: 9, 11, b6

Possible ***major triads*** over **Cm7b5**
From: b6

Ab: Ab C Eb (b6 1 b3)

Disjunct major triads: no

Hexatons: no

Possible ***minor triads*** over **Cminor7b5**
From: b3, 11

Ebm: Eb Gb Bb (b3, b5 b7)
Fm: F Ab C (11, b6,1)

| Disjunct major triads: | Hexatons: |
|---|---|
| Eb-Fm | Eb F Gb Ab Bb C |

Possible ***dim. triads*** over **Cminor7b5**
From: 1,9

Cdim: C Eb Gb (1, b3, b5)
Ddim: D F Ab (9, b3, b6)

| Disjunct major triads: | Hexatons |
|---|---|
| Cdim- Ddim | C D Eb F Gb A |

Possible ***aug. triads*** over **Cminor7b5**
From: 9, b5, b7

Daug: D F# A# (1, b5, b7)
Gb aug: Gb Bb D (b5, b7, 9)
Bb aug: Bb D F# (b7, 9, b5)

Disjunct major triads: There is not!

Hexatons: no

Over ***Cm7b5*** Harmonic minor sound!
**Scale:** Bb harmonic minor: 1, b3, b5, b7 extensions: b9,11,b6

Possible ***major triads*** over **Cm7b5**
From: 11, b5

F: F A C (11,6,1)
Gb: Gb Bb Db (b5, b7, b9)

Disjunct major triads: Hexatons:

F-Gb F Gb A Bb C Db

Possible ***minor triads*** over **Cminor7b5**
From:b3, b5, b7

Ebm: Eb Gb Bb (b3, b5, b7)
Gbm: Gb, Bbb --bebé A, Db (b5, 6, b9)
Bbm: Bb Db F (b7, b9,11)

Disjunct major triads: There is not!
Hexatons: no

Possible ***dim. triads*** over **Cminor7b5**
From: 1,b3,b5,6

Cdim: C Eb Gb (1,b3,b5)
Eb dim: Eb Gb Bbb bebé---A (b3,b5,6)
Gb dim: Gb Bbb Dbb bebé—A Deszesz- C (b5, 6, 1)
A dim: A C Eb (6,1,b3)

Disjunct major triads: There is not!
Hexatons: no

Possible ***aug. triads*** over **Cminor7b5**
From: b9, 11, 6

Db aug: Db F A (b9, 11, 6)
F aug: F A C# (11, 6, b9)
A aug: A C# E# (6, b9, 11)

Disjunct major triads: There is not!
Hexatons: no

Over **Cmin.maj7**
Scale: **C melodic minor** 1,b3,5,7 ext: 9,11,6

Possible ***major triads*** over **Cmin.maj7**
from 11, 5

F: F A C (11, 6, 1)
G: G B D (5, 7, 9)
Disjunct major triads: Hexatons:
F-G F G A B C D

Possible ***minor triads*** over **Cmin.maj7**
From: 1, 9

Cm: C Eb G (1, b3, 5)
Dm: D F A (9, 11, 6)

Disjunct minor triads: Hexatons:
Cm-Dm C D Eb F G A

Possible ***dim. triads*** over **Cmin.maj7**
from 6, 7

Adim: A C Eb (6, 1, b3)
Bdim: B D F (7, 9, 11)

Disjunct dim. triads: Hexaton:

Adim-Bdim A B C D Eb F

Possible ***aug. triads*** over **Cmin.maj7**

There is not!

Over **Cmajor7#5**
Scale: **Lydian augmented** 1,3,#5,7, extensions: 9, #11,13

Possible ***major triads*** over **Cmajor7 #5**
From: 1, 9, 3, 5

C: C E G (1, 3, 5)
D: D F# A (9, #11, 6)
E: E G# B (3, #5, 7)
G: G B D (1, 7, 9)

Disjunct major triads: Hexatons:
C-D C D E F# G A
D-E D E F# G# A B

Possible ***minor triads*** over **Cmajor7#5**
From: 3, 6,7

Em: E G B (3, 5, 7)
Am: G B D (5, 7,9)
Bm: B D F# (7, 9, #11)

Disjunct minor triads: No Hexaton: No

Possible ***dim. triads*** over **Cmajor7#5**
From: #11, #5

F#dim: F# A C (#11, 6, 1)
G#dim: G# B D (#5, 7, 9)

Disjunct dim. triads: Hexaton:

F#dim-G#dim F# G# A B C D

Possible ***aug. triads*** over **Cmajor7#5**

From: 1, 3, #5

Caug: C E G# (1, 3, #5)
Eaug: E G# B# (3, #5, 1)
G#aug: G# B# D##=E (#5, 1, 3)

Disjunct aug. triads: No Hexatons: No

**Disjunct triad pairs and their hexatonic scale in the octatonic and augmented system.**

Triads in the **Octatonic system** (1/2-1)

**Over C7alt extensions: b9 #9 #11(b5) NO#5**
Actually over C7 #9, b9, (b5)

C-octatonic scale:
C C# D# E F# G A Bb
1 b9 #9 3 #11 5 6 b7

**Triads in the system:**

Major:1,3,5,7
Minor:1,3,5,7
Dim.:,1,2,3,4,5,6,7,8
Aug.: NO

Major: C, D#, F#, A
Minor: Cm, D#m, F#m, Am
Dim.: Cdim, C#dim, D#dim, Edim, F#dim, Gdim,
Adim, Bbdim

***major triads:***

C: C E G (1, 3, 5)
D#: D# F##=G A# (b9, 5, b7)
F#: F# A# C# (b5, b7, 3)
A: A C# E (6, b9, 3)

Disjunct major triad pairs:
C-F#
D#-A

Hexatons:
C C# E F# A G
D# E F##=G A A# C#

***minor triads:***

Cm: C Eb G (1, #9, 5)
D#m: D# F# A# (#9, b5, b7)
F#m: F# A C# (b5, 6, b9)
Am: A C E (6, 1, 3)

Disjunct minor triad pairs:
Cm-F#m

D#m-Am

Hexatons:
C C# Eb F# G A

D# E F# A A# C

***Dim. triads:***

Cdim: C Eb Gb (1,b9,b5)
C#dim: C# E G (b9,3,5)
D#dim: D# F# A (#9,b5,6)
Edim: E G Bb (3,5,b7)
F#dim: F# A C (b5,6,1)
Gdim: G Bb Db (5,b7,b9)
Adim: A C Eb (6,1,#9)
Bbdim: Bb Db Fb=E (b7,b9,3)

Disjunct minor triad pairs:

Cdim-C#dim, Cdim-Edim, Cdim-Gdim, Cdim-Bbdim
C#dim-D#dim,C#dim-F#dim. C#dim-Adim
D#dim-Edim, D#dim-Gdim, D#dim-Bbdim
Edim-F#dim, Edim-Adim
F#dim-Gdim, F#dim-Bbdim
Gdim-Adim
Adim-Bbdim

Hexatons: too much!

Triads in the C **Augmented system** (1-3)

C Augmented scale:
C Db E F G# A
1 b9 3 11 #5 6

Triads in the system:

Major: 2, 4, 6
Minor: 2, 4, 6
Dim.: NO
Aug.: 1, 2, 3, 4, 5, 6

Major: Db, F, A
Minor: Db, F, A
Dim: NO
Aug: C, Db, E, F, G#, A

Over **Db MAJ7 chord**

***major triads:***

Db: Dd F Ab (1, 3, 5)
F: F A C (3, #5, 7)
A: A C# E (#5, 1, #9)

Disjunct major triad pairs: Hexatons:
Db-A Db E F Ab A C#

***minor triads:***

Db m: Dd E Ab (1, #9, 5)
F m: F Ab C (3, 5, 7)
A m: A C E (#5, 7, #9)

Disjunct minor triad pairs: Hexatons:

NO

***Aug. triads:***

C aug: C E G# (7, #9, 5)
Db aug: Dd F A# (1, 3, #5)
E aug: E G# B# (#9, 5, 7)
F aug: F A C# (3, #5, 1)
G# aug: G# B# , # # D=E (5, 7, # 9)
A aug: A C# E# (#5, 1, 3)

Disjunct minor triad pairs: Hexatons:

C-Db
C-F
C-A
Db-E
Db-G#
E-F
E-A
F-G#
G#-A

***Dim. triads: No***