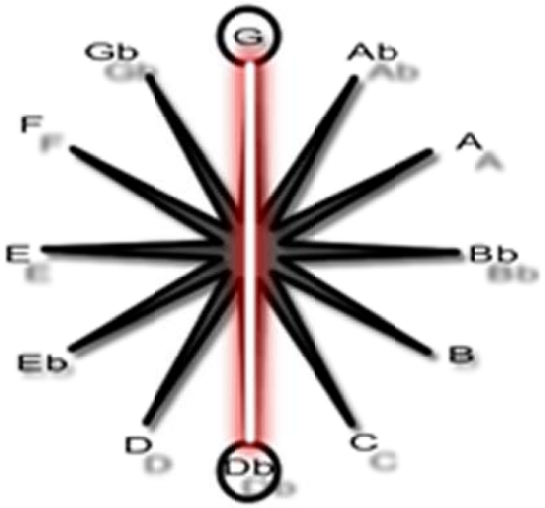
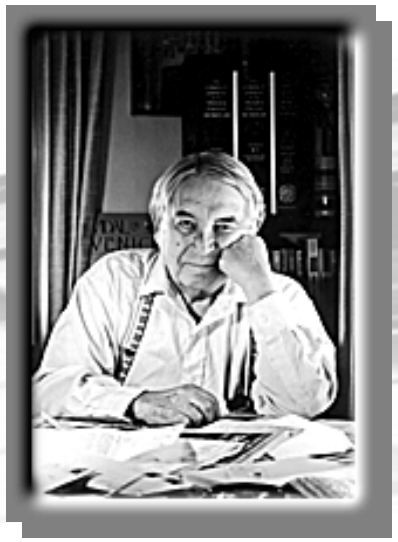
Symmetrical Harmonies for Jazz Guitar



"The Tritone Progression"

by John Riemer



Symmetrical Harmonies for the Jazz Guitar

Derived from Nicolas Slonimsky's "Thesaurus of Scales and Melodic Patterns"

Part 1-The Tritone Progression

Nicolas Slonimsky was a Russian-American musicologist; born in St Petersburg April 27, 1894, and died in Los Angeles December 25, 1995. Among the things he wrote one of the most influential to jazz musicians was his *Thesaurus of Scales and Melodic Patterns* (1947, Macmillan Publishers), an inventory of tonal combinations, expressed as patterns and scales. It is based on symmetrical divisions of the octave or octaves and then embellishes the tones that are generated by the divisions (principal tones). He then ornamented these principal tones by using neighboring notes of uniform intervals. The addition of an ornamental note or notes to the principal note is, at the risk of over simplifying, the heart of Slonimsky's approach.

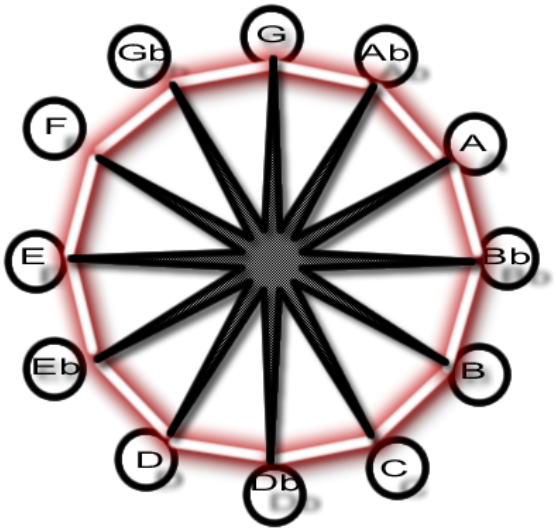
It is generally rumored that John Coltrane studied his book Included in the studies of the book are patterns and harmonies that are created by dividing the octave or octaves into equal parts that are evident in Coltrane's work.

Frank Zappa had Slonimsky perform, playing electric piano in concert. Both Slonimsky and Zappa spoke with high regard of each others work.

The Disclaimer

When approaching this man's material I was overwhelmed by his thoroughness and the scope of his concept. My hope was to apply his approach to the guitar. The range of the piano puts many of the divisions out of reach to the guitarist. This helped reduce the possibilities because I worked within the typical 3 ½ octave range that guitarists are accustomed to using. Many of his terms (sesquitone, ultra interpolation, etc) are unfamiliar to most people on this planet so I try to express these terms in a simpler descriptive manner. I apologize for any liberties I have taken that might offend.

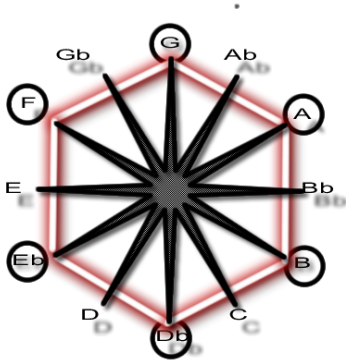
Having 12 half steps to the octave creates divisions that are factors of 12.



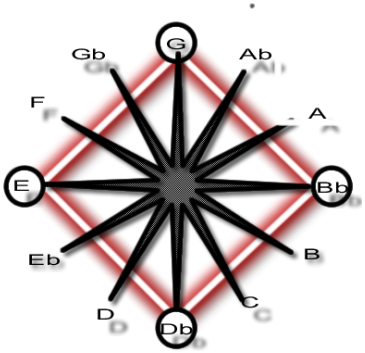
One octave may contain 12 divisions.
This would yield a Chromatic scale.

Here are the possibilities for equal divisions of one octave

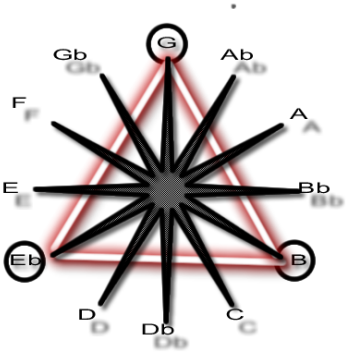
Divisions	12	6	4	3	2
scale or interval	Chromatic	Whole tone	Diminished	Augmented	Tritone



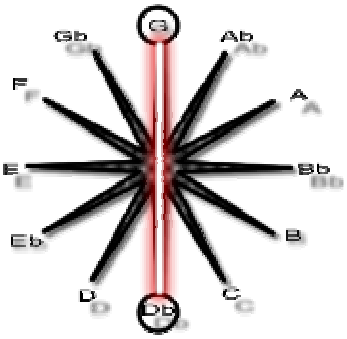
Whole tone



Diminished



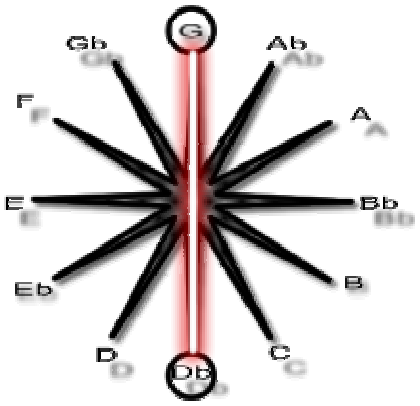
Augmented

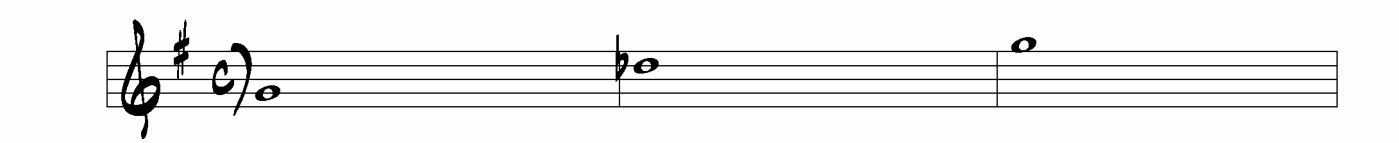


Tritone

The Tritone Progression

The simplest exercise is the “Tritone Progression” or the division of one octave into two equal parts. In the tritone progression an octave is divided into two parts yielding the two principle notes from which the patterns will develop.





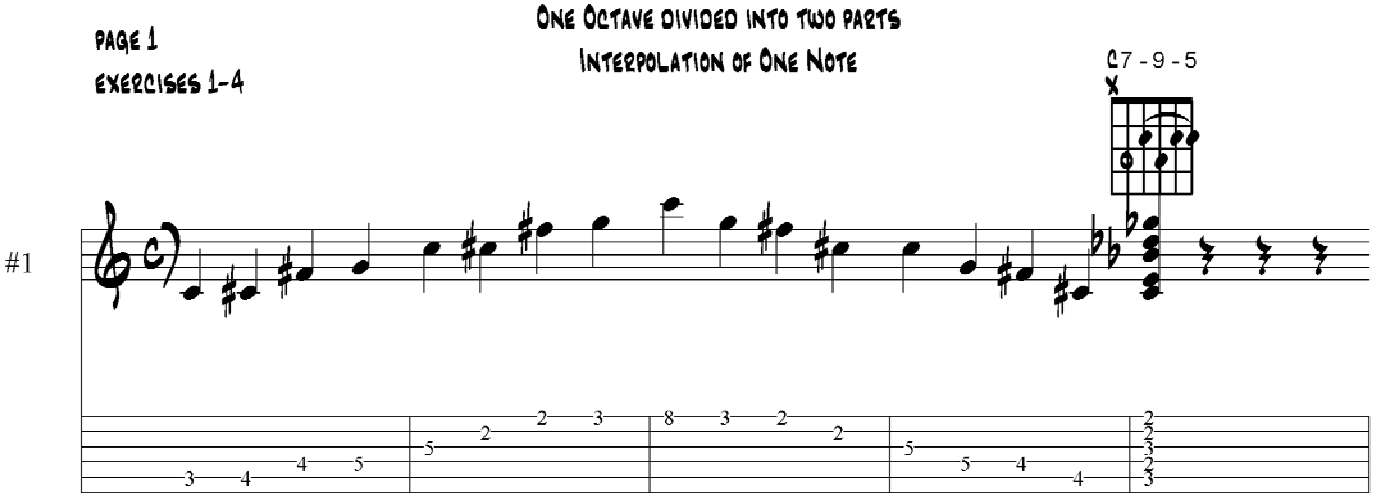
The Tritone Exercises

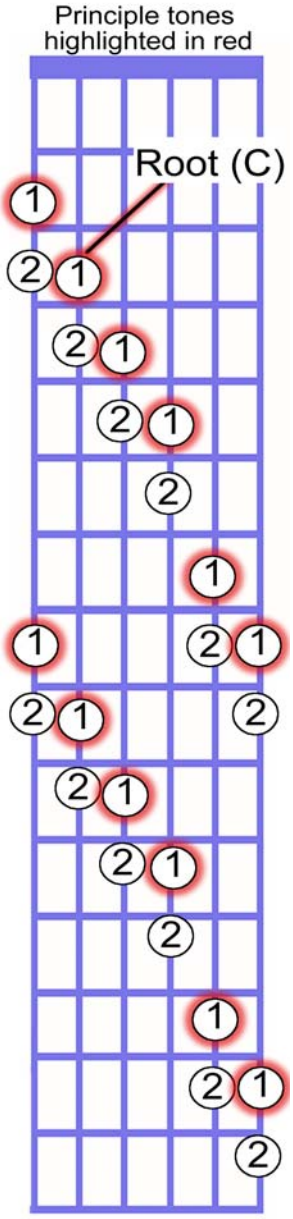
Following are the tritone exercises with a note added ½ step above the principal tones (C and Gb) in the key and order that they appear in the original book. I have included a pattern that does not appear in Slonimsky’s work, the one that adds a note a minor third above the principal notes. I include all patterns that are suggested by the principal notes and ornamentations. Slonimsky omits some patterns that are suggested by his technique. One such pattern is marked 3*.Perhaps he omitted it because it is a diminished arpeggio. My work is focused on developing a chord relationship to the patterns. I have tried to connect chords that are commonly in use in jazz by analyzing the pattern over various roots.

Course of Study

- This first exercise will serve as a template of study for all the patterns.
- The principal tones are defined and the embellishments are added.
- The pattern or **tone cluster** that is created will be examined by first establishing the tones as roots of chords.
- Then the tones will be considered as 3rds, 5ths, 7ths, and 9ths of a chord.
- Ambiguities and redundancies will be noted.
- In all chord instances the single note pattern remains the same except for possible accents placed on chord tones.
- Usual symbols prevail…some that might differ;
    - + Means augmented or sharped…
    - -Means diminished or flatted (minor)
    - Maj7….natural 7th
    - Dom 7…flatted 7th
    - Sus…usually no 3rd , 4th instead
    - 11th chord…usually has the third when possible
    - Notes added to create chord that are not part of the original pattern will be marked with (*)
    - Notes in conflict that should be avoided are within <conflict> arrows
    - Cluster tones, i.e., principal tones plus the added ornament notes, will be in **bold** type

Exercise #1

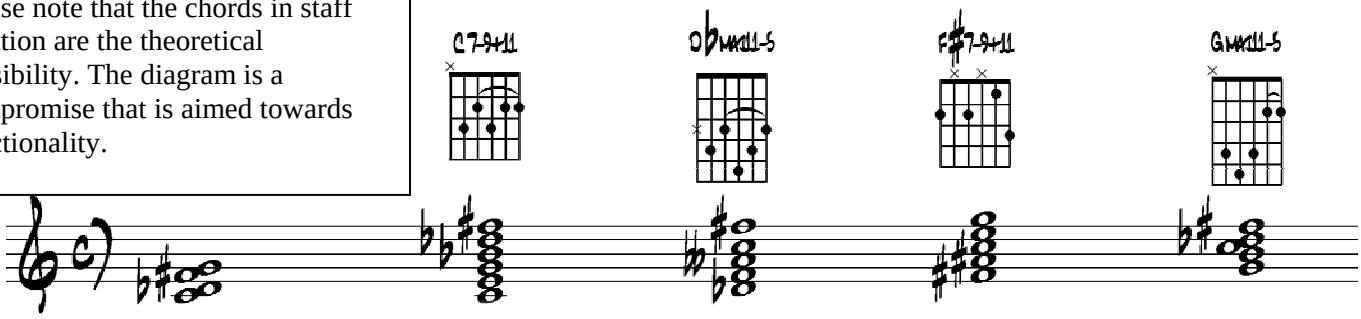

PAGE 1
EXERCISES 1-4
ONE OCTAVE DIVIDED INTO TWO PARTS
INTERPOLATION OF ONE NOTE
C7 - 9 - 5
#1


Principle tones
highlighted in red
Root (C)

Here are some of the chords suggested by this pattern.

The cluster created by this pattern may be taken apart and each note may serve as a root

Please note that the chords in staff notation are the theoretical possibility. The diagram is a compromise that is aimed towards functionality.



The tone cluster-	**C as root**	**Db as root**	**F# as root**	**G as root**
The names could be;	**C7-9+11**	**Dbmaj11-5**	**F#7-9+11**	**Gmaj7-5**

These are theoretical possibilities and not all are feasible or easy to play. To streamline this study I will present the chord forms and pattern relationships that I feel would be useful to the jazz guitarist.

Chords suggested by the tritone progression

"ONE OCTAVE DIVIDED INTO TWO PARTS, INTERPOLATION OF ONE NOTE"

THE CLUSTER TONES C,C#,F#,G IN RELATIONSHIP TO THE CHROMATIC SCALE IMPLY THESE CHORDS.

Cluster Tones-->	C	C#	F#	G	chord implied	Character
C	octave	-9	b5/#11	5	**C7-9+11**	Tension
C#/Db	7	octave	11	b5/#11	**C# lydian (maj7+11)**	Release
D	b7	7	3	4th/11th	**D11 (BeBop 7th)**	Build
D#/Eb	6th/13th	b7	b3/#9	3	**Eb13#9**	Tension
E	#5/b13	6th/13th	9	b3/#9	**Ealt**	Tension
F	5	#5/b13	b9	2	**F alt**	Tension
F#/Gb	b5/#11	5	octave	b2/b9	**F#/Gb alt**	Tension
G	4th/11th	b5/#11	7	octave	**G lydian**	Release
G#/Ab	3	4th/11th	b7	7	**G# <ambiguous>**	<ambiguous>
A	b3/#9	3	6th/13th	b7	**A13#9**	Tension
A#/Bb	2	b3/#9	#5/b13	6th/13th	**Bbm13**	Build
B	b2/b9	2	5	#5/b13	**B <ambiguous>**	<ambiguous>

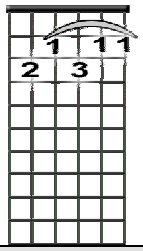
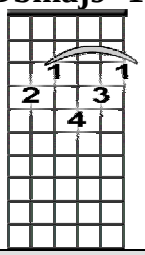
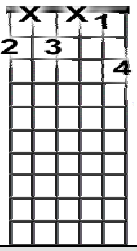
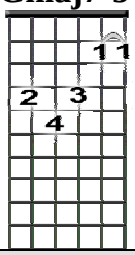
The chromatic scale as possible roots

Cluster tones create these intervals when a root is chosen from chromatic scale

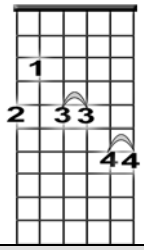
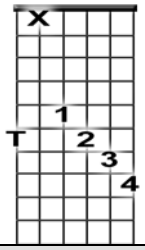
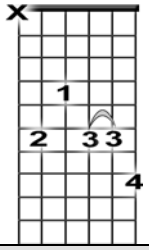
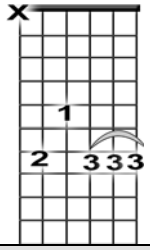
NOTE: ALL OF THE FOLLOWING CHORDS ARE IN VARYING DEGREES OF AGREEMENT WITH THE PATTERN CREATED IN EXERCISE #1

Notes added to create chord that are not part of the original pattern will be marked with (*)
Notes in conflict that should be avoided are within <conflict> arrows

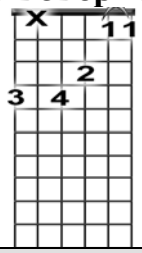
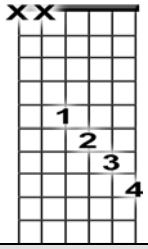
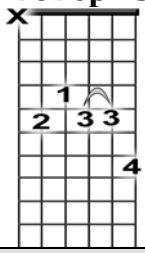
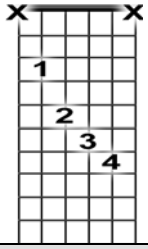
- **Cluster Tones as the <u>ROOT</u>**

Chord Name And Diagram	**C7-9+11** 	**Dbmaj9+11** 	**F#7-9+11** 	**Gmaj7-5** 
comment	Chord defined by pattern very well			
13th	Not necessary	Not necessary	Not necessary	Not necessary
11th	F#= +11	G=+11(F#=11 not used)	C= +11	C =(11th not used)
9th	Db (C#)= b9	Eb*=9	G= -9	Not necessary
7th	Bb* =dom7	C=Ma 7	E*	F# =Maj7
5th	G= 5th	Ab*=Ma 3rd	C#	Db = flatted 5th
Ma3rd	E* = 3rd	F*	A#*	B*= 3rd
Root	**C**	C#/Db	**F#/Gb**	G

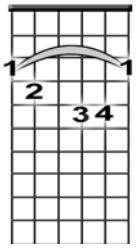
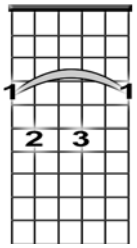
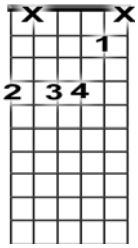
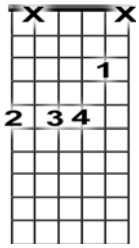
- **Cluster Tones as the <u>Minor Third</u>**

Chord Name And Diagram	**Am13** 	**A#/Bb m13+5** 	**Ebm 13** 	**Em9** 
comment	OK choice if conflict is de-emphasized <C#> in <conflict>	OK choice No root in chord. Big hands could put a Bb in the bass with your thumb	Works if you are careful about minor /major 3rd conflict	OK choice though somewhat distant. Watch the 13/flat 13 conflict <conflict>
13th	F#= 13th	G=13<F#=b13th >	C	C=b13 <conflict with C#>
11th	Not necessary	Not necessary	Ab	Not necessary
9th	B*= 9th	C	F	F#= 9th
7th	G= dom 7th	Ab*	Db	D*=dom 7th
5th	E*=5th	E#/F	Bb*	B*= 5th
mi3rd	**C (principle tone) <C#>**	C# (embellishment)	**Gb/F# (principle tone)<conflict with G>**	G (embellishment)
Root	A*	Bb (A#)*	Eb*	E

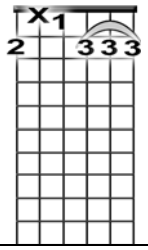
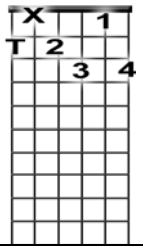
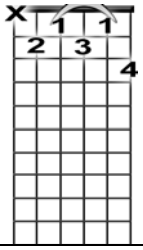
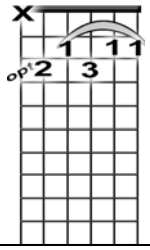
- **Cluster Tones as the <u>Major Third</u>**

Chord Name And Diagram	**Ab BeBop 13th** 	**A13+9** 	**D BeBop 13th** 	**Eb13#9** 
comment	BeBop scale has major 7th and dominant 7th	Optional open A string	BeBop scale has major 7th and dominant 7th	
13th	F*	F#	B*	Db
11th	C#	Not Necessary.-11th will generally be omitted in 13th chords because of its ambiguous quality,i.e.<conflict> with maj 3rd, unless it is one of the tones of the tone cluster	G	Not Necessary.-11th will generally be omitted in 13th chords because of its ambiguous quality,i.e.<conflict> with maj 3rd, unless it is one of the tones of the tone cluster
9th	Bb*	C (sharp 9th)	E	F# (sharp 9th)
7th	<F#>G=BeBop 7th	G	<C#>C =BeBop 7th	Db
5th	Eb*	E*	Ab	Bb*
Major 3rd	**C (principle tone)**	C#/ Db(embellishment)	**F# (principle tone)**	G (embellishment)
Root	Ab	A	D	Eb

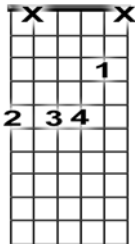
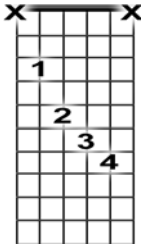
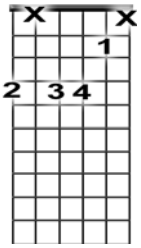
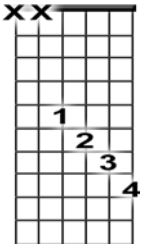
- **Cluster Tones as the <u>Fourth/11th</u>**

Chord Name And Diagram	**Gsus 13-5** 	**Absus 13-5** 	**Db7sus** 	**D7sus** 
Comment				
13th	E	Not used	Bb	B
11th	C<C# aug 11th conflict >	C#	F	G
9th	A	A#/Bb*	Eb	E
7th	F*(dominant)	F#/Gb<G>	B*	C/C#
5th	D	D#/Eb*	G#/Ab	A
4th	**C (principle tone)**	C#/ Db(embellishment)	**F# (principle tone)**	G (embellishment)
3rd	Omitted for sus chord	C<C#>	F<F#>	F#/Gb
Root	G	G#/Ab	Db/C#	D

- **Cluster Tones as the <u>Fifth</u>**

Chord Name And Diagram	**F7+5-9** 	**F#7-5-9** 	**B7+5-9** 	**C7-9+11** 
Comment		. Big hands could put a F# root in the bass with your thumb…ok to leave out... Yes, it is a C7+11 also!		Optional "G" in bass will create +11 (both F# and G) Considered C7-5-9 also!
13th	Not necessary	Not necessary	Not necessary	Not necessary
11th	Not necessary	Not necessary	Not necessary	F# aug 11th
9th	F# 9=flat 9th /<G>9th	G=flatted 9th	C=flatted 9th <C#>	C#=flatted 9th
7th	Eb*	E	A	Bb*
5th	**C (principle tone)<C#=#5th >**	<C=flatted 5th>C#/ Db(embellishment)	**F# (principle tone) <G=sharp 5th >**	G (embellishment)
3rd	A	A#	D#	E*
Root	F	F#	B	C

- **Cluster Tones as the <u>Seventh</u>**

Chord Name And Diagram	**D11** 	**Eb13#9** 	**Ab11** 	**A13#9** 
Comment	BeBop 7th			Optional "A" in bass open 5th string
13th	Not necessary	C	Not necessary	Not necessary
11th	G	Not necessary	**<C#>**	F# aug 11th
9th	E*	F#=sharp 9th	Bb	C#=flatted 9th
7th	**C (principle tone) <C#= dom 7th >**	C#/ Db(embellishment)	**F# (principle tone) <G >**	F#/G (embellishment)
5th	A*	Bb*	Eb	E
3rd	F#<G sus>	G	C	C#
Root	D	Eb*	Ab	A

In reviewing the chords that are implied by exercise #1 that the chords fall into 4 general categories;

The Chords created by pattern#1:

C7-9+11	**Dbmaj9+11**	**F#7-9+11**	**Gmaj7-5**
Am13	**A#/Bb m13+5**	**Ebm 13**	**Em9**
Ab BeBop 13th	**A13+9**	**D BeBop 13th**	**Eb13#9**
Gsus 13-5	**Absus 13-5**	**Db7sus**	**D7sus**
F7+5-9	**F#7-5-9**	**B7+5-9**	**C7-9+11**
D11	**Eb13#9**	**Ab11**	**A13#9**

The

1. Tonic or **Release** Quality- **I chord**
2. Subdominant (super tonic) or **Build** Quality **II chord**
3. Dominant or **Tension Quality** **V chord**
4. **Ambiguous**-not easily categorized **II chord???**

These chords were generated by imagining a root using the chromatic scale as the source. The first chord (C7-9+11) was arrived at by using C as the root and deciding what the rest of the cluster (i.e. C#, F# and G) would create over that root. The same was done for the rest of the chords using the root from the chromatic scale. Notes were added where necessary to create a chord that has common (?) usage.

Applying the pattern to a progression

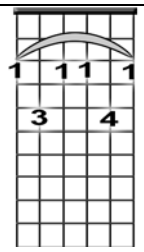
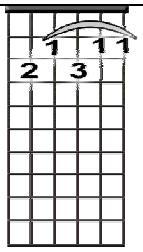
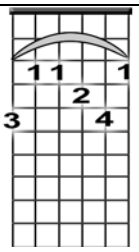
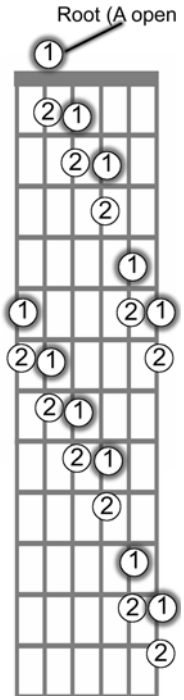
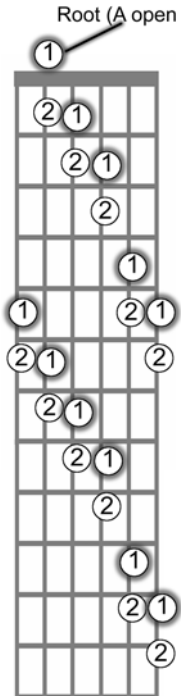
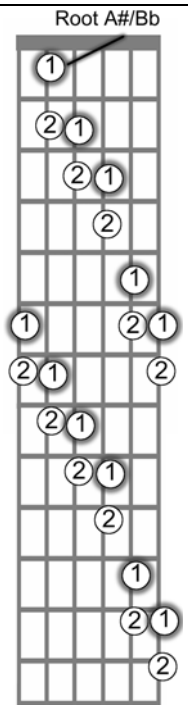
Tritone exercise #1 suggests chords that are appropriate for "two, five, one" sequences but the suggested chords are in different keys. This would suggest that moving the tritone exercise to a couple of different starting points we might be able to cover the two, five, one sequence with very little movement

The choices are many and I will present what works for my ear. I encourage further experimenting to broaden the use of these patterns. Look for simple solutions to the harmonic structures. In the heat of playing, the ideas will be easier to summon. My rule is, "If it sounds right, it is right!"

This chart demonstrates a transposition of a fifth

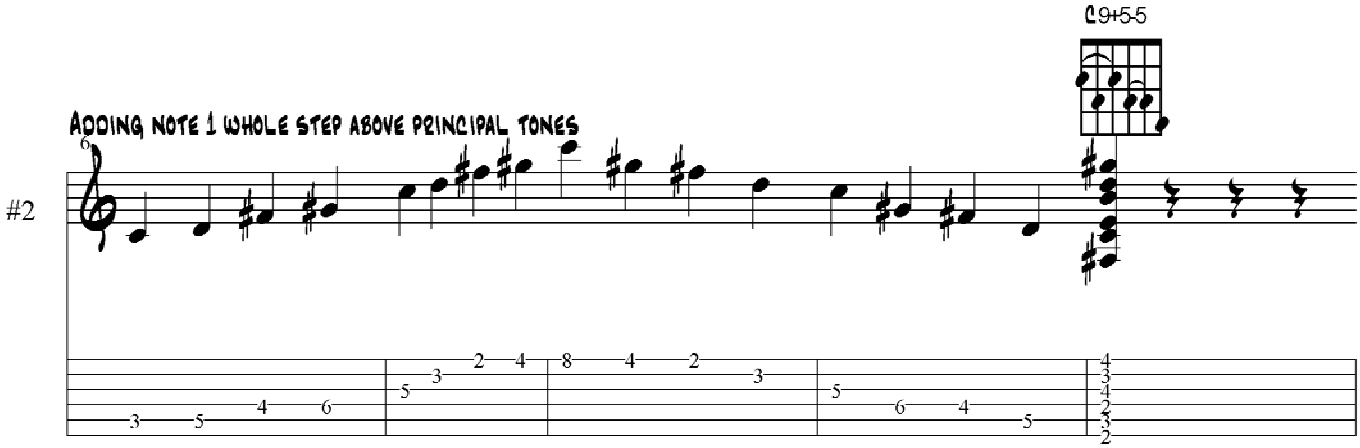
Chords implied root of cluster=C	Chords implied root of cluster=G	Chord Quality
C7-9+11	G7-9+11	V
C# lydian (maj7+11)	G# lydian (maj7+11)	I
D11 (BeBop 7th)	A11 (BeBop 7th)	I or V
Eb13#9	Bb13#9	V
Ealt	Balt	V
F alt	C alt	V
F#/Gb alt	C#/Db alt	V
G lydian	D lydian	I
G# <ambiguous>	Eb<ambiguous>	?
A13#9	E13#9	V
Bbm13	Fm13	II
B<ambiguous>	F#<ambiguous>	?

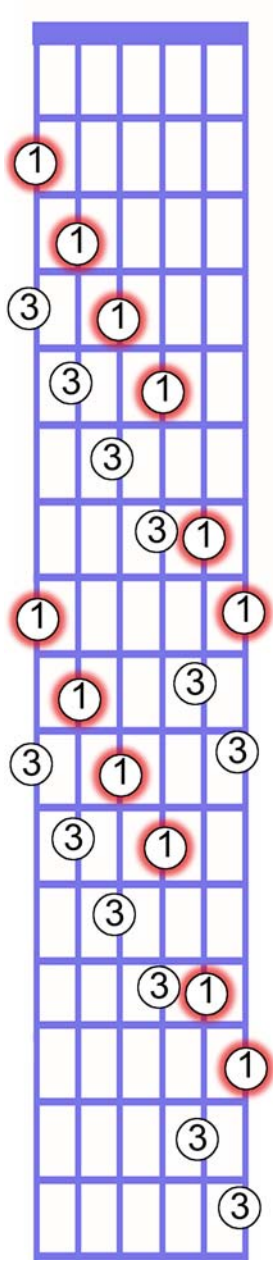
Two, Five, One Progression (II, V, I)

Build (II) **Gm13**	**Tension (V)** **C7-9+11**	**Release (I)** **F lydian**
		
The transposition to A (starting principal tones=A/Eb) would be necessary to create a Gm II chord.	Many choices for the dominant. Keeping the pattern rooted to "A" would imply a C13#9.This would also minimize hand motion.	The One chord occurs (for exercise #1) only when C# and G# are used as roots. The transposition to A# (starting principle tones=A#/E) or E(starting principal tones=E/A#) would be necessary to create a Fmaj7 I chord.
		

Exercise#2

Exercise number two uses the same principal tones (C and F#) and adds notes one whole step above each tone (D and G#). All chords following will be a suitable accompaniment for exercise #2





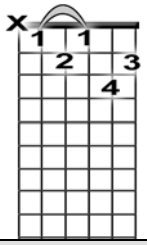
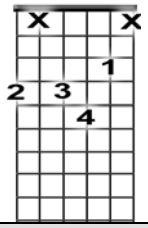
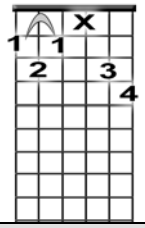
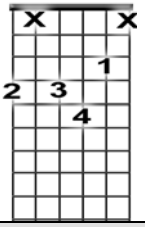
THE CLUSTER TONES C, D, F#, G# IN RELATIONSHIP TO THE CHROMATIC SCALE IMPLY THESE CHORDS.

Cluster Tones-->	C	D	F#	G#	chord implied	Character
C	Octave	9	b5/#11	#5/b13	**C7+5+11**	Tension
C#/Db	7	-9	11	5	**C#maj7-9**	Release
D	b7	Octave	3	b5/#11	**D7-5**	Tension
D#/Eb	6th/13th	7	b3/#9	4th/11th	**Ebmi(maj7)**	Build
E	#5/b13	b7	9	3	**E9-13**	Tension
F	5	6th/13th	b9	b3/#9	**Fm13-9**	Build
F#/Gb	b5/#11	#5/b13	Octave	9	**F#9b5b13**	Tension
G	4th/11th	5	7	Octave	**Gmaj7sus4**	Release
G#/Ab	3	b5/#11	b7	7	**G#7-5**	Tension
A	b3/#9	4th/11th	6th/13th	b7	**Am11**	Build
A#/Bb	2	3	#5/b13	6th/13th	**A#13#5**	Build
B	b2/b9	b3/#9	5	#5/b13	**Balt**	Tension

The chromatic scale as possible roots

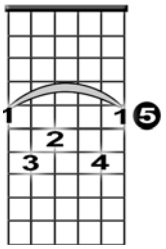
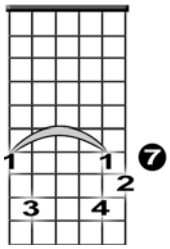
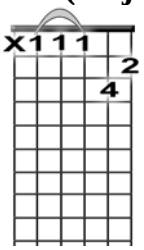
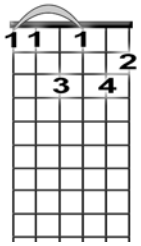
Cluster tones create these intervals when a root is chosen from chromatic scale

- **Cluster Tones as the <u>Root</u>**

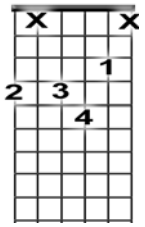
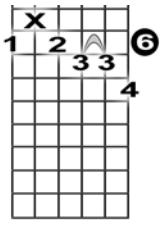
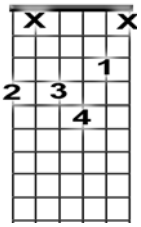
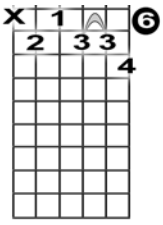
Chord Name And Diagram	**C9+5+11** 	**D7-5** 	**F#9+5+11** 	**G#7-5** 
comment	***Reciprocal of F#9+5+11 Root not used	Best fit…no added notes Same as G#7-5 (reciprocal chord)	Reciprocal of C9+5+11	Best fit…no added notes Same as D7-5 (reciprocal chord)
13th	Not necessary	Not necessary	Not necessary	Not necessary
11th	F#= +11	Not necessary	C= +11th	Not necessary
9th	D=9th	Not necessary	G#=9th	Not necessary
7th	Bb	C=Dom 7th	E*	F# =Dom7
5th	G#=#5th	G#=-flatted 5th	D= #5th	D=flatted 5th
3rd	E* = 3rd	F#=3rd	A#*	C= 3rd
Root	**C**	**D**	**F#/Gb**	**G#**

***** Chords can be substituted for one another…the flatted 5th or +11 of one chord is the root of its reciprocal.

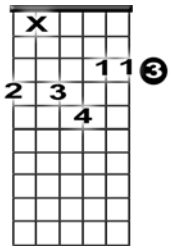
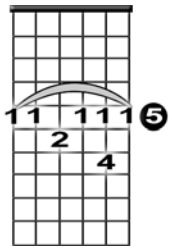
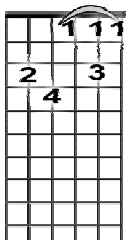
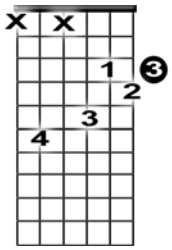
- **Cluster Tones as the <u>Minor Third</u>**

Chord Name And Diagram	**Am13 nat.7** 	**Bm13-9** 	**Ebm(maj7)** 	**Fm13-9** 
comment	Chord is at 5th fret	Chord is at 7th fret		11th added in bass to make chord a bit more playable.
13th	F#	G#/Ab	C	D
11th	Not necessary	Not necessary	G#/Ab = 11th	Bb(added in bass)
9th	Not necessary	C= flatted 9th		Gb= b 9th
7th	G#=major or natural 7th	A*= dominant 7th	D=maj 7th	
5th	E	F#	Bb*	C
Minor 3rd	**C**	**D**	**F#/Gb**	**G#/Ab**
Root	A*	B*	D#/Eb	F

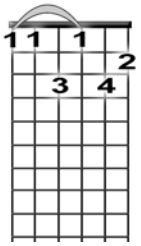
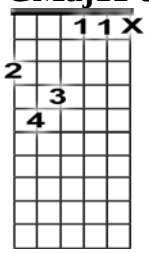
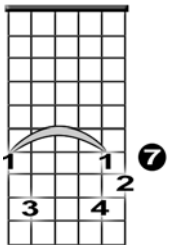
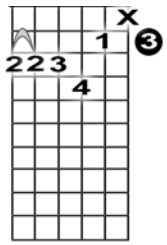
- **Cluster Tones as the <u>Major Third</u>**

Chord Name And Diagram	**Ab7-5** 	**Bb9#5** 	**D7-5** 	**E9#5** 
comment	Best fit Reciprocal to D7-5	First finger optional at **X** for 3rd in bass		Note the relationship to Bb9#5 (tritone)
13th	Not necessary	G#/Ab	Not necessary	Not necessary
11th	Not necessary	Not necessary	Not necessary	Not necessary
9th	Not necessary	C= 9th	Not necessary	F#/Gb= 9 th
7th	F#/Gb=dom 7th	Ab= dominant 7th	C=dom7th	D=dom 7th
5th	D=b5th	F#=# 5th	G#/Ab=flatted 5th	C(B#)= sharp 5th
Major 3rd	**C**	**D**	**F#/Gb**	**G#/Ab**
Root	Ab	Bb*	D	E*

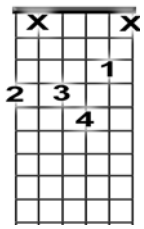
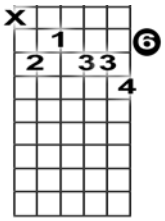
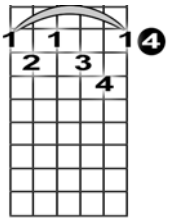
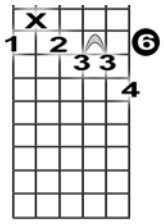
- **Cluster Tones as the <u>Fourth</u>**

Chord Name And Diagram	**Maj 7-9 sus 4** 	**Ami (maj7) 13** 	**Dbmaj7-9sus4** 	**Eb mi (maj7) 13** 
comment	No root…flat 9th in bass Reciprocal to D7-5 sus 4			
13th	Not necessary	F#	Not necessary	C = 13th
11th	Not necessary	Not necessary	Not necessary	Not necessary
9th	G#= flatted 9th	Not necessary	D= flatted 9th	F#/Gb= #9 th
7th	F#/Gb=maj 7th	G#= maj 7th	C=maj7th	D=maj7th
5th	D = 5th	E*(not used)	G#/Ab= 5th	Bb*
4th	**C**	**D**	**F#/Gb=sus 4th**	**G#/Ab**
3rd	B*	C=flatted 3rd	E* not used	F#/Gb
Root	G*	A*	Db	Eb

- **Cluster Tones as the <u>Fifth</u>**

Chord Name And Diagram	**Fmi13-9** 	**GMaj11-9** 	**Bm13-9** 	**C#mi11-9 nat 7** 
comment	Can be Bb7+5	Small hands might leave out the 6th string		Flexible 2nd finger helps make this work. Using 5th or 6th string rather than both will work also.
13th	D=13th	Not necessary	Ab= 13th	Not necessary
11th	Bb=11th	C	Not necessary	F#/Gb= 11th
9th	F#/Gb=flatted 9th	G#/Ab=flatted 9th	C= flatted 9th	D= flatted 9th
7th	Eb=dom 7th	F#/Gb=Maj7	No 5th	C= maj7th
5th	**C**	**D**	**F#/Gb=sus 4th**	**G#/Ab**
3rd	G#/Ab=flatted 3rd	B*	D=flatted 3rd	Eb=flatted 3rd *not used*
Root	F	G*	B	C#

- **Cluster Tones as the Dominant 7^{th}**

Chord Name And Diagram	**D7-5** 	**E9-13** 	**Ab13+11** 	**Bb9+5** 
comment				Note the tritone relationship to E9-13
13^{th}	Not necessary	C=flatted 13^{th}	F	Not necessary
11^{th}	Not necessary	Not necessary	D=+11^{th}	Not necessary
9^{th}	Not necessary	F#	Not necessary	C
7^{th}	**C**	**D**	**F#/Gb**	**G#/Ab**
5^{th}	Ab=flatted 5^{th}	B*(not used)	Eb not used	F#/Db=sharp 5^{th}
3^{rd}	F#	G#	C	D
Root	D	E*	Ab	Bb

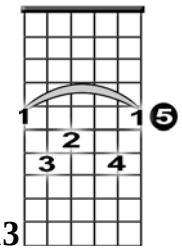
Making use of pattern #2

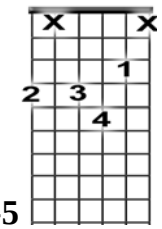
The chords generated in exercise #2

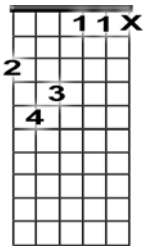
C9+5+11	**D7-5**	**F#9+5+11**	**G#7-5**
Am13 nat.7	**Bm13-9**	**Ebm(maj7)**	**Fm13-9**
Ab7-5	**Bb9#5**	**D7-5**	**E9#5**
Maj 7-9 sus 4	**Ami (maj7) 13**	**Dbmaj7-9sus4**	**Eb mi (maj7) 13**
Fmi13-9	**GMaj11-9**	**Bm13-9**	**C#mi11-9 nat 7**
D7-5	**E9-13**	**Ab13+11**	**Bb9+5**

From the above chart chord choices that satisfy the II, V, I chord progression may be made with no transposition. To make this work with a single note line, notes outside of the chord cluster will have to be played to establish and define the chord movement.

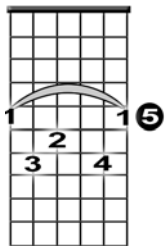
II, V, I

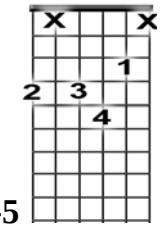
Ami (maj7) 13 

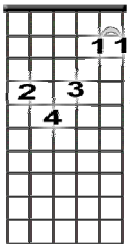
D7-5 

GMaj11-9 

Because of the rather dissonant I chords (the Gmaj7 and D maj7 have an unsettling flatted 9th) it would be better to resolve to a more tonic quality harmony such as the G maj7-5 from exercise #1.

Ami (maj7) 13 

D7-5 

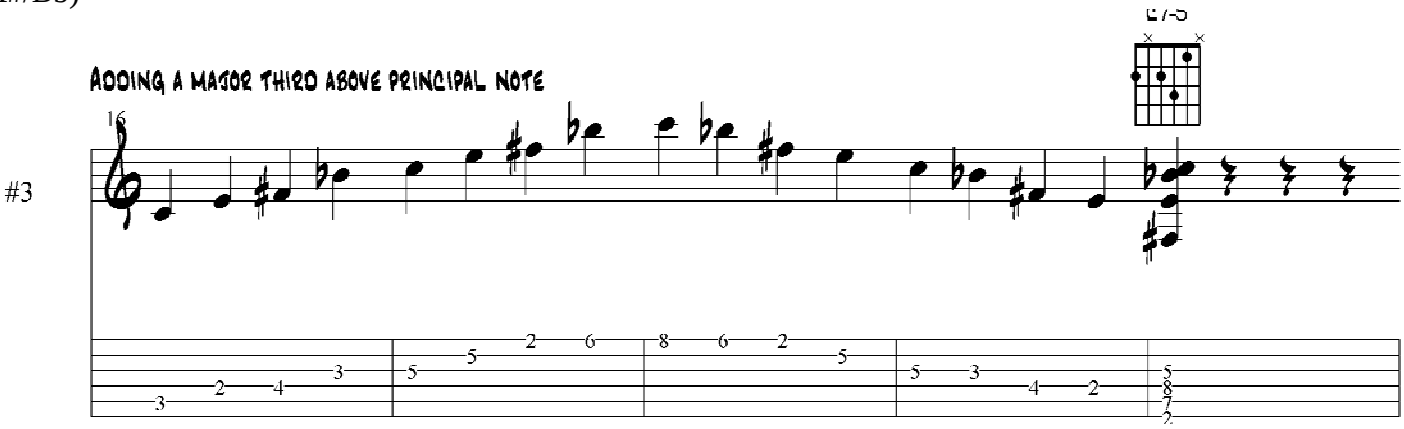
Gmaj7-5 

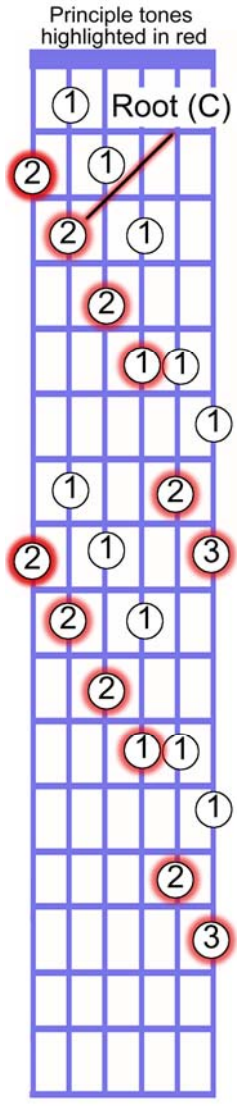
Resolve using pattern from exercise#1

"IF IT SOUNDS RIGHT, IT IS RIGHT!"

Exercise #3

Exercise number two uses the same principal tones (C and F#) and adds notes2 steps above each tone (E and A#/Bb)





Analysis

Cluster Tones-->	C	E	F#/Gb	A#/Bb	chord implied	*Character
C	Octave	3	b5/#11	b7	**C7-5**	Tension
C#/Db	7	b3/#9	11	6th/13th	**C#mi13th ma7**	Release
D	b7	2nd /9th	3	#5/b13	**D9-13**	Tension
D#/Eb	6th/13th	b2/b9	b3/#9	5	**Ebmi 13b9**	Build
E	#5/b13	Octave	2nd /9th	b5/#11	**E9b5b13**	Tension
F	5	7	b9	4th/11th	**Fmaj11-9**	Release
F#/Gb	b5/#11	b7	Octave	3	**Gb7b5**	Tension
G	4th/11th	6th/13th	7	b3/#9	**Gmi13maj7**	Release
G#/Ab	3	#5/b13	b7	2nd /9th	**G#9-13**	Tension
A	b3/#9	5	6th/13th	b2/b9	**Am13-9**	Build
A#/Bb	2nd /9th	b5/#11	#5/b13	Octave	**Bb9b5b13**	Tension
B	b2/b9	4th/11th	5	7	**Bmaj11-9**	Release

The chromatic scale as possible roots

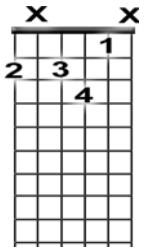
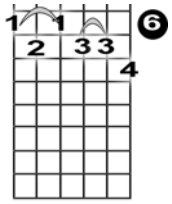
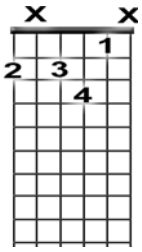
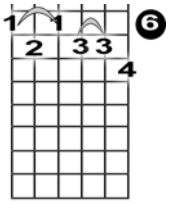
Cluster tones create these intervals when a root is chosen from chromatic scale

* **Character=**This is a rough determination as to how the chord might be used-

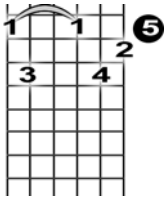
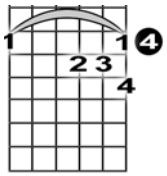
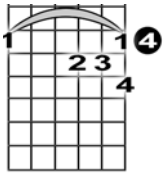
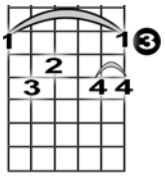
- Release= I chord
- Build= II chord
- Tension = V chord

This determination has been made by the structure, the sound and connotation will help you make the decision as to how the chord is used.

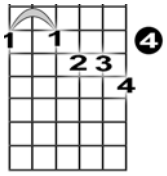
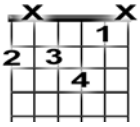
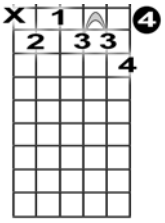
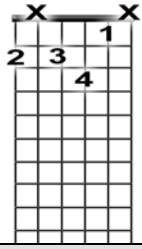
- **Cluster Tones as the <u>Root</u>**

Chord Name And Diagram	**C7-5** 	**E9b5b13** 	**F#/Gb7-5** 	**Bb9b5b13** 
comment	Reciprocal of Gb7-5	Reciprocal of Bb9b5b13	Reciprocal of C7-5	Reciprocal of E9b5b13
13th	Not necessary	C=-flatted13th	Not necessary	F#/Gb=b 13th
11th	Not necessary	Not necessary	Not necessary	Not necessary
9th	Not necessary	F#/Gb=9th	Not necessary	C=9th
7th	Bb= b7th	D*=dom 7th	E= b7th	Ab*=dom 7th
5th	F#/Gb=b 5th	Bb=b 5th	C=b 5th	E=b 5th
3rd	E=3rd	G#/Ab*= 3rd	Bb= 3rd	D*= 3rd
Root	**C**	**E**	**F#/Gb**	**Bb**

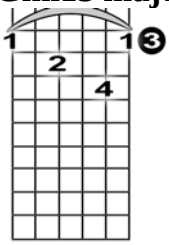
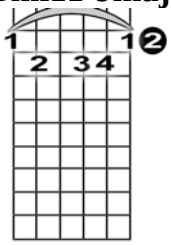
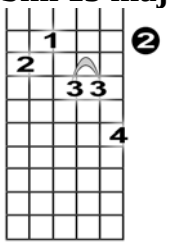
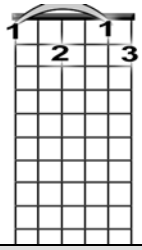
- **Cluster Tones as the <u>Flatted Third</u>**

Chord Name And Diagram	**Am13-9** 	**Db/C# mi 13th ma7** 	**Ebm13-9** 	**G mi 13th ma7** 
comment	May also be thought of as C13-5		The 11th (Ab) has been added so the form may be simplified…same as Dbmi13t ma7 (no Eb root)	9th added for ease of playing and avoids redundant 5th
13th	F#/Gb= 13th	Bb	C= 13th	E= 13th
11th	Not necessary	F#/Gb=11th	Ab*=11th	C= 11th
9th	Bb=b 9th	Not necessary	E=flatted 9th	A* 9th added for ease of playing
7th	G*	C=maj 7th	Db*=7th	F#=maj 7th
5th	E=5th	Ab *	Bb= 5th	D*
b 3rd	**C**	**E**	**F#/Gb**	**Bb**
Root	A*	Db/C#*	Eb*	G*

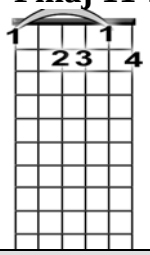
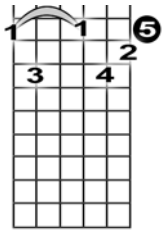
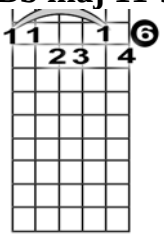
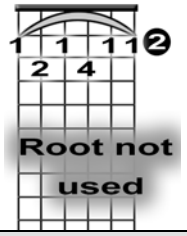
Cluster Tones as the <u>Maj Third</u>

Chord Name And Diagram	**Ab9+5** 	**C7-5** 	**D9+5** 	**F#/Gb 7-5** 
comment	Reciprocal of D9#5	Reciprocal of Gb7-5	Reciprocal of Ab9+5	Reciprocal of C7-9
13th	Not necessary	Not necessary	Not necessary	Not necessary
11th	Not necessary	Not necessary	Not necessary	Not necessary
9th	Bb= 9th	Not necessary	E= 9th	Not necessary
7th	F#/Gb= dom 7th	Bb= b7th	C= b7th	E = b7th
5th	E=#5th	F#/Gb= b5th	Bb= #5th	C= b5th
3rd	**C**	**E**	**F#/Gb**	**Bb**
Root	Ab*	C	D*	F#/Gb

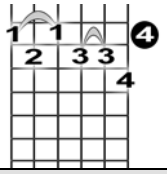
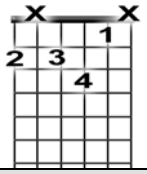
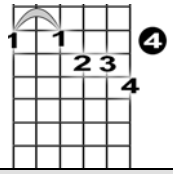
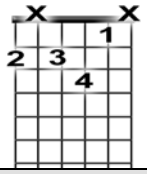
Cluster Tones as the Fourth/Eleventh

Chord Name And Diagram	Gmi13 maj7 	Bmi11-9maj7 	Dbmi 13 maj7 	Fmi11-9maj7 
comment	Not all components appear in the form…			
13th	E=13th	Not necessary	Bb=13th	Not necessary
11th	**C**	**E**	**F#/Gb**	**Bb**
9th	Not necessary	C= flatted 9th	Not necessary	Gb=flatted 9th
7th	Gb/F# = maj7th	Bb= maj7th	C= maj7th	E=maj 7th
5th	D*=5th	F#/Gb= 5th	Ab*= 5th	C=5th
4th	**C**	**E**	**F#/Gb**	**Bb**
3rd	**Bb=flatted 3rd**	**D*=flatted 3rd**	**E= flatted 3rd**	**Ab*=flatted 3rd**
Root	**G**	**B**	**Db**	**F**

Cluster Tones as the Fifth

Chord Name And Diagram	Fmaj 11-9 	Ami 13-9 	Bb maj 11-9 	Ebmi13-9 
comment	Somewhat enigmatic			
13th	Not necessary	F#/Gb= 13th	Not necessary	C= 13th
11th	Bb	Not necessary	E = 11th	Not necessary
9th	F#/Gb=b 9th	Bb=b9th	C =b9th	E=b 9th
7th	E= maj 7th	G*= dom 7th	Bb= maj 7th	Db= dom 7th
5th	**C**	**E**	**F#/Gb**	**Bb**
3rd	**A***	**C=flatted 3rd**	**D#/Eb=3rd**	**F#/Gb=mi 3rd**
Root	**F***	**A***	**B***	**Eb*root not played**

Cluster Tones as the Seventh

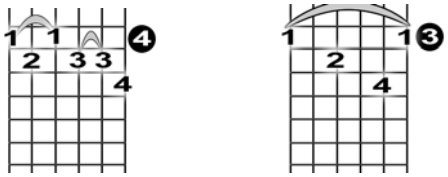
Chord Name And Diagram	D9#5 	F#/Gb 7 -5 	Ab9#5 	C7-5 
comment	reciprocal of Ab9#5	reciprocal of C7-5	reciprocal of D9#5	reciprocal of Gb7-5
13th	Not necessary	Not necessary	Not necessary	Not necessary
11th	Not necessary	Not necessary	**F#/Gb**	Not necessary
9th	E=9th	Not necessary	Bb=9th	Not necessary
7th	**C=dom 7th**	**E= dom 7th**	**F#/Gb= dom 7th**	**Bb= dom 7th**
5th	Bb=#5th	C=flatted 5th	E= #5th	F#/Gb= flatted 5th
3rd	**F#/Gb= 3rd**	**A#/Bb=3rd**	**C=3rd**	**E=3rd**
Root	**D***	**F#/Gb**	**Ab***	**C**

Cluster tones as the Major 3rd and Dominant 7th are perhaps the most useful forms, and the most clearly stated sounds. IF IT SOUNDS RIGHT, IT IS RIGHT!

In summary:

This relationship, i.e., cluster tones C, E, Gb, Bb generate a strong flatted fifth sound, as should be obvious because the cluster is a flat five chord in itself. The minor13th maj7th make an interesting release chord in the right setting.
Here is a resolution using only pattern #3 and the chords that are generated from it.

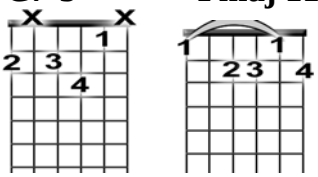
D9#5 **Gmi13 maj7**



It may a bit of a stretch to hear it the first couple of times but with repetition it will start making musical sense.

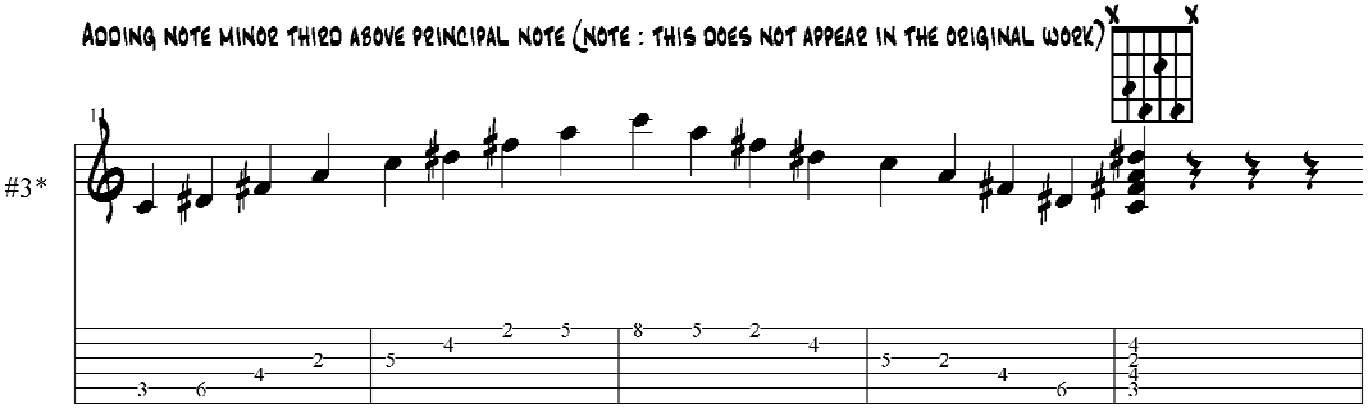
Here is what would be considered an enigmatic (???) ending, again using only the notes from the tone cluster in exercise #3 as the melodic source

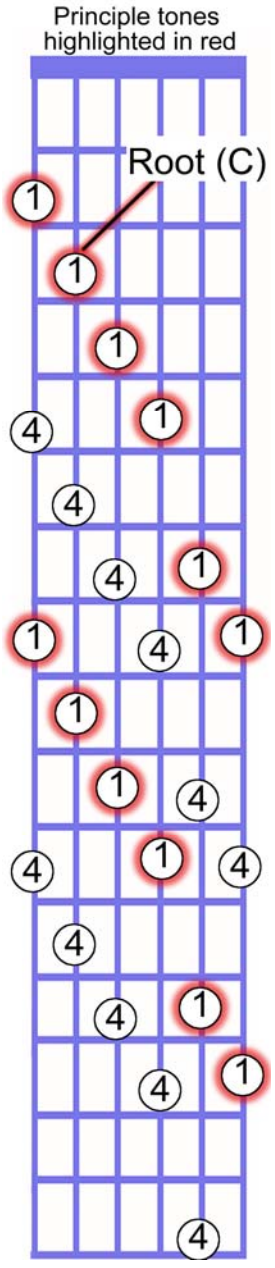
C7-5 **Fmaj 11-9**



Exercise #3*

Exercise number two uses the same principal tones (C and F#) and adds notes1 ½ steps above each tone (Eb and A). *This pattern was not included in Slonimsky's original work; I include it as it creates a diminished arpeggio which is used frequently and to good advantage by the jazz player. All chords following will be a suitable





I should note at this point, the diminished chord I reference is properly called a diminished 7th. A diminished chord is a triad made up of root, flat 3rd, and flat 5th.The diminished chord in this example is 1,b3,b5,andbb7 (6). For a jazz study the diminished chord will be more frequently used.

The diminished arpeggio presents a unique situation. Each note of the pattern can be considered the root so playing any diminished implies four diminished chords. This is due to the fact that all notes are equally spaced from one another. Also when considering roots outside of the roots suggested by the cluster tones (see chart below) two other chord types are generated; the 7th flatted 9th (7-9), and the maj.7 flatted 13th (maj7-13). In other words, playing one diminished chord can imply 12 different chords when your bass player is playing the alternate bass note. This characteristic makes for easy playing as well.

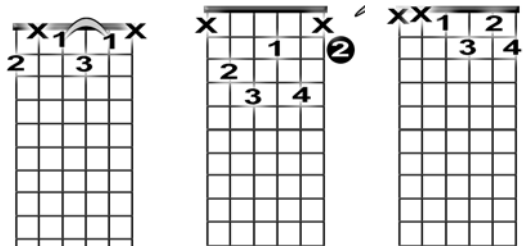
Analysis

Cluster Tones-->	C	Eb	F#/Gb	A	chord implied	Character
C	Octave	-3	b5/#11	6th/13th	**C dim**	Build
C#/Db	7	9	11	#5/b13	**C#maj7-13**	Release
D	b7	-9	3	5	**D7-9**	Tension
D#/Eb	6th/13th	Octave	b3/#9	#5/b13	**Ebdim7**	Build
E	#5/b13	7	9	5	**Emaj7-13**	Release
F	5	b7	b9	b5/#11	**F7-9**	Tension
F#/Gb	b5/#11	6th/13th	Octave	4th/11th	**Gbdim**	Build
G	4th/11th	#5/b13	7	3	**Gmaj7-13**	Release
G#/Ab	3	5	b7	b3/#9	**G#7-9**	Tension
A	b3/#9	b5/#11	6th/13th	Octave	**A dim 7**	Build
A#/Bb	2	4th/11th	#5/b13	7	**Bbmaj7-13**	Release
B	b2/b9	3	5	b7	**B7-9**	Tension

The chromatic scale as possible roots

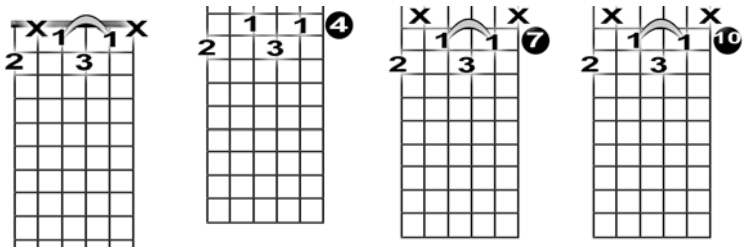
Cluster tones create these intervals when a root is chosen from chromatic scale

I use only 3 diminished chord forms:



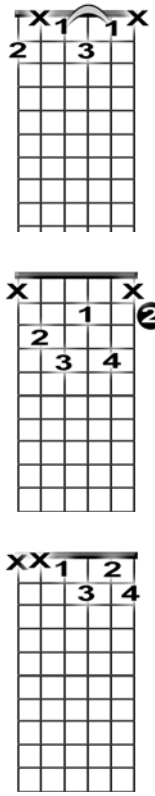
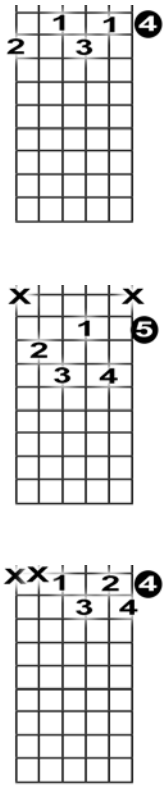
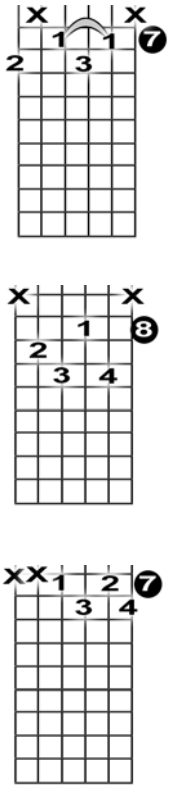
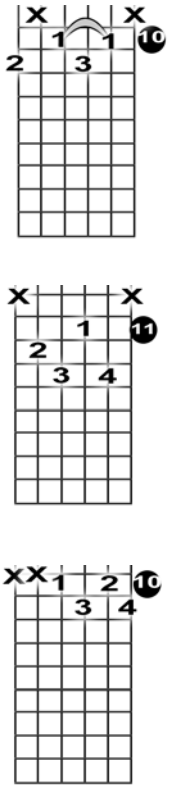
Each chord shown has the same roots; **C, Eb, Gb, or A**

Each form repeats in a linear fashion along the neck every 4th fret (add 3 to fret you are on)

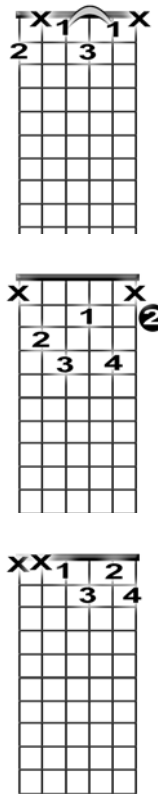
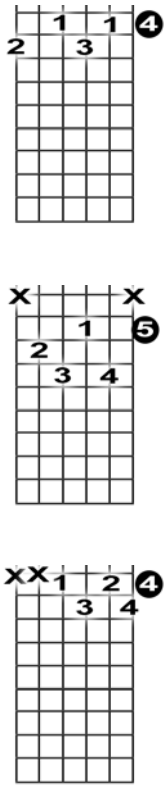
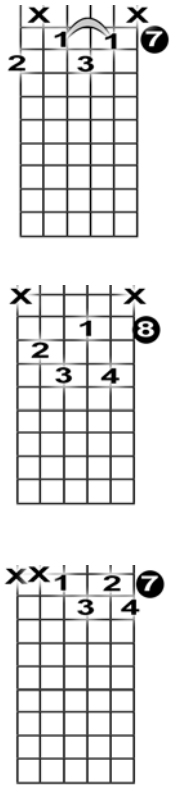
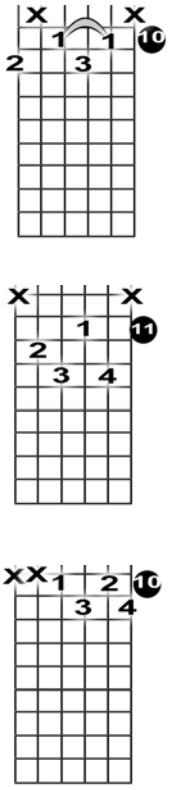


These are all the same root chord C, Eb, Gb, or A

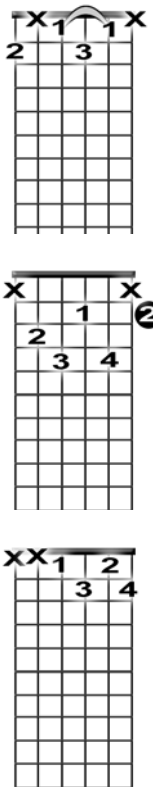
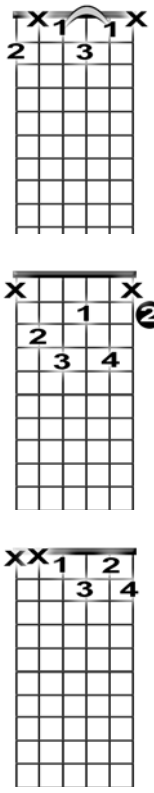
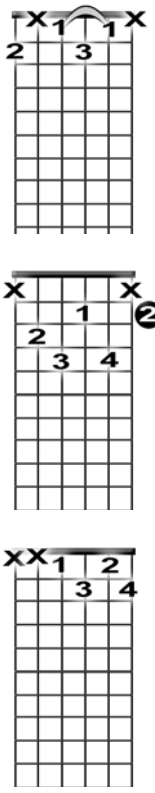
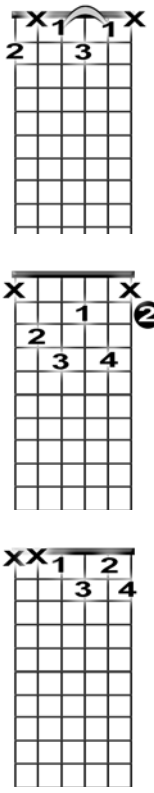
- **Cluster Tones as the <u>Root</u>**

Chord Name And Diagram	**C dim 7**	**Eb dim 7**	**Gb dim 7**	**A dim 7**
				
comment				
13^{th}	Not necessary	Not necessary	Not necessary	Not necessary
11^{th}	Not necessary	Not necessary	C= $+11^{th}$	Not necessary
9^{th}	Not necessary	Not necessary	G#=9^{th}	Gb
7^{th}	A=double $b7^{th}(6^{th})$	C= double $b7^{th}(6^{th})$	Eb= double $b7^{th}(6^{th})$	F# = double $b7^{th}(6^{th})$
5^{th}	Gb=b 5^{th}	A=b 5^{th}	C=b 5^{th}	Eb=b 5^{th}
3rd	Eb = $b3^{rd}$	Gb= $b3^{rd}$	A= $b3^{rd}$	C= $b3^{rd}$
Root	**C**	**D#/Eb**	**F#/Gb**	**A**

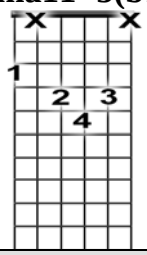
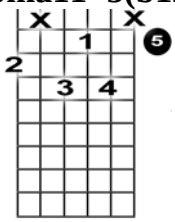
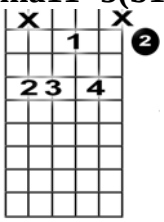
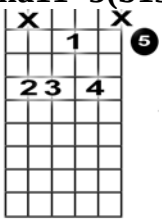
- **Cluster Tones as the <u>Flatted Third</u>**

Chord Name And Diagram	**A dim 7**	**C dim 7**	**D#/Eb dim 7**	**F#/Gb dim 7**
				
comment				
13^{th}	Not necessary	Not necessary	Not necessary	Not necessary
11^{th}	Not necessary	Not necessary	C= $+11^{th}$	Not necessary
9^{th}	Not necessary	Not necessary	G#=9^{th}	Gb
7^{th}	F# = double $b7^{th}(6^{th})$	A= double $b7^{th}(6^{th})$	C= double $b7^{th}(6^{th})$	Eb = double $b7^{th}(6^{th})$
5^{th}	Eb=b 5^{th}	F#/Gb=b 5^{th}	A=b 5^{th}	C=b 5^{th}
b 3rd	**C**	**D#/Eb**	**F#/Gb**	**A**
Root	**A**	**C**	**Eb**	**Gb**

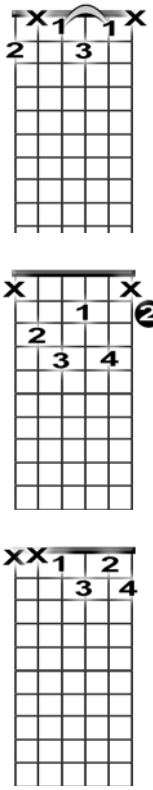
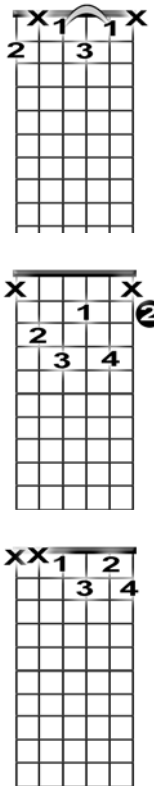
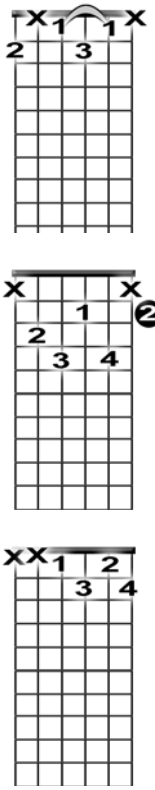
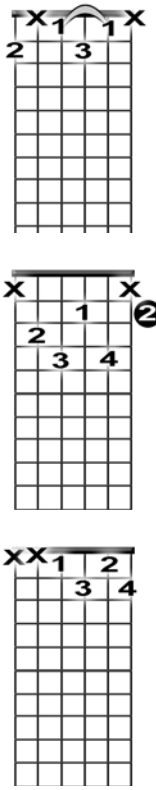
Cluster Tones as the Maj Third

Chord Name And Diagram	Ab 7-9	B 7-9	D7-9	F7-9
				
comment	The usual practice is to play a diminished chord a half step above the root, omitting the root, assuming your bass player will cover the root. Some easily played forms are possible though.			
13^{th}	Not necessary	Not necessary	Not necessary	Not necessary
11^{th}	Not necessary	Not necessary	Not necessary	Not necessary
9^{th}	A=$b9^{th}$	C=$b9^{th}$	Eb=$b9^{th}$	Gb
7^{th}	Gb/F# = $b7^{th}$	A= $b7^{th}$	C= $b7^{th}$	D#/Eb = $b7^{th}$
5^{th}	Eb=5^{th}	F#/Gb= 5^{th}	A= 5^{th}	C= 5^{th}
3rd	**C**	**D#/Eb**	**F#/Gb**	**A**
Root	**Ab***	**B/Cb***	**D***	**F***

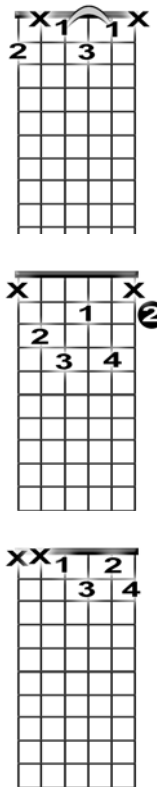
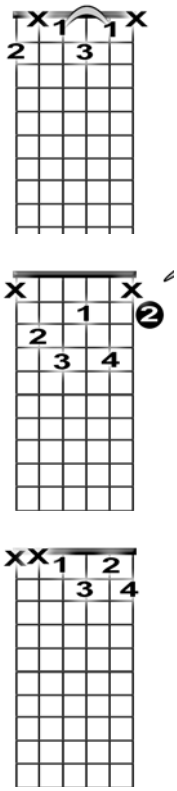
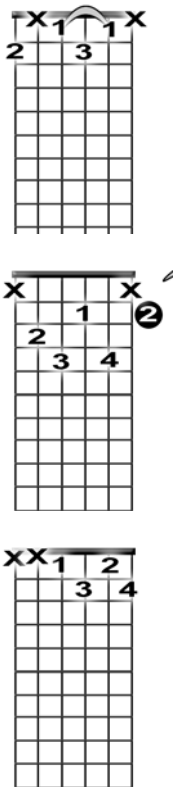
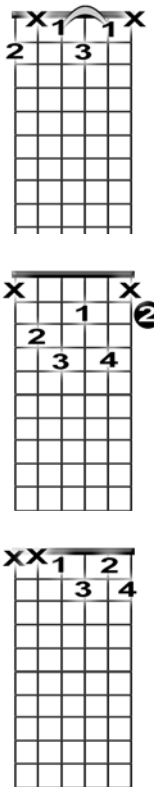
Cluster Tones as the <u>Fourth/Eleventh</u>

Chord Name And Diagram	**Gma11+5(b13)** 	**Bbma11+5(b13)** 	**Db ma11+5(b13)** 	**E ma11+5(b13)** 
comment	Not all components appear in the form…essentially a diminished form is used with the appropriate bass.	Not all components appear in the form…essentially a diminished form is used with the appropriate bass.	Not all components appear in the form…essentially a diminished form is used with the appropriate bass.	Not all components appear in the form…essentially a diminished form is used with the appropriate bass.
13th	D#=b13th	F#/Gb= b13th	A= b13th	C= b13th
11th	**C**	**D#/Eb**	**F#/Gb**	**A**
9th	A=9th	C= 9th	**D#/Eb= 9th**	Not necessary
7th	Gb/F# = maj7th	A= maj7th9not used)	C= maj7th	D#/Eb = maj7th
5th	D#=#5th	F#/Gb= #5th	A= #5th	C= #5th
4th	**C**	**D#/Eb**	**F#/Gb**	**A**
3rd	**B= 3rd**	**D=3rd**	**F=3rd**	**G#=3rd**
Root	**G**	**Bb**	**Db**	**E**

Cluster Tones as the Fifth

Chord Name And Diagram	F7-9	Ab 7-9	B7-9	D7-9
				
comment				
13th	Not necessary	Not necessary	Not necessary	Not necessary
11th	Not necessary	Not necessary	Not necessary	Not necessary
9th	F#/Gb=b 9th	A=b9th	C =b9th	D#/Eb=b 9th
7th	Eb= dom 7th	F#/Gb= dom 7th	A=dom 7th	C= b7th
5th	**C**	**D#/Eb**	**F#/Gb**	**A**
3rd	**A**	**C**	**D#/Eb=3rd**	**F#/Gb=3rd**
Root	**F***	**Ab***	**B***	**D***

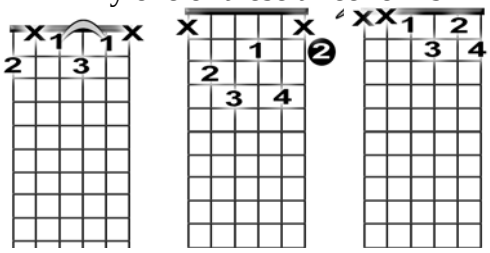
Cluster Tones as the <u>Seventh</u>

Chord Name And Diagram	**D 7-9**	**F7-9**	**Ab7-9**	**B7-9**
				
comment				
13th	Not necessary	Not necessary	Not necessary	Not necessary
11th	Not necessary	Not necessary	**F#/Gb**	**A**
9th	D#/Eb=b 9th	F#/Gb=b9th	Eb=b9th	Gb
7th	**C**	**D#/Eb**	**F#/Gb**	**A**
5th	A=5th	C=5th	A= #5th	C= #5th
3rd	**F#/Gb= 3rd**	**A=3rd**	**F=3rd**	**G#=3rd**
Root	**D**	**F**	**Ab**	**B**

In summary:

Chords generated by this pattern tend to be dissonant, dominant qualities despite the analysis that would reveal a tonic quality (maj9-13). When viewing this chord as triads super imposed upon one another, they contain the one chord as well as the five chord as well. This leads to a non-committed quality so I don't try to qualify it as a one chord…it just doesn't work for my ear except in very *out* harmonic situations. So we are left with the diminished chord and the dominant 7th with a flatted fifth and the one chord that sounds more like a five chord.

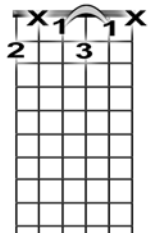
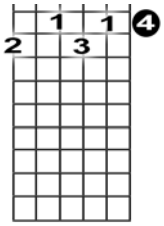
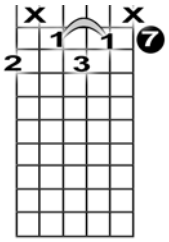
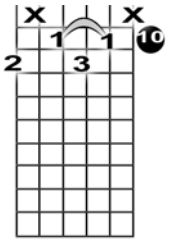
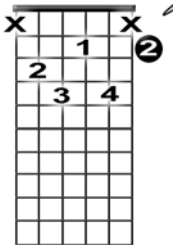
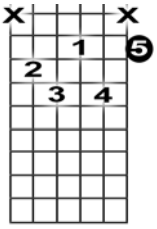
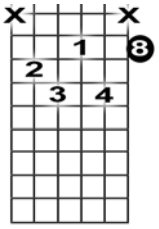
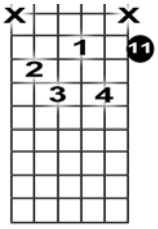
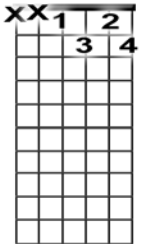
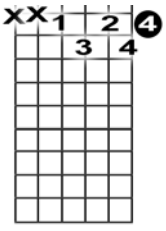
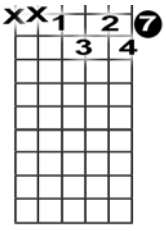
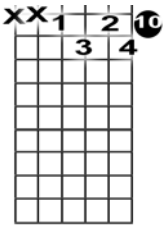
Any one of these three forms



will satisfy the names in the graph below

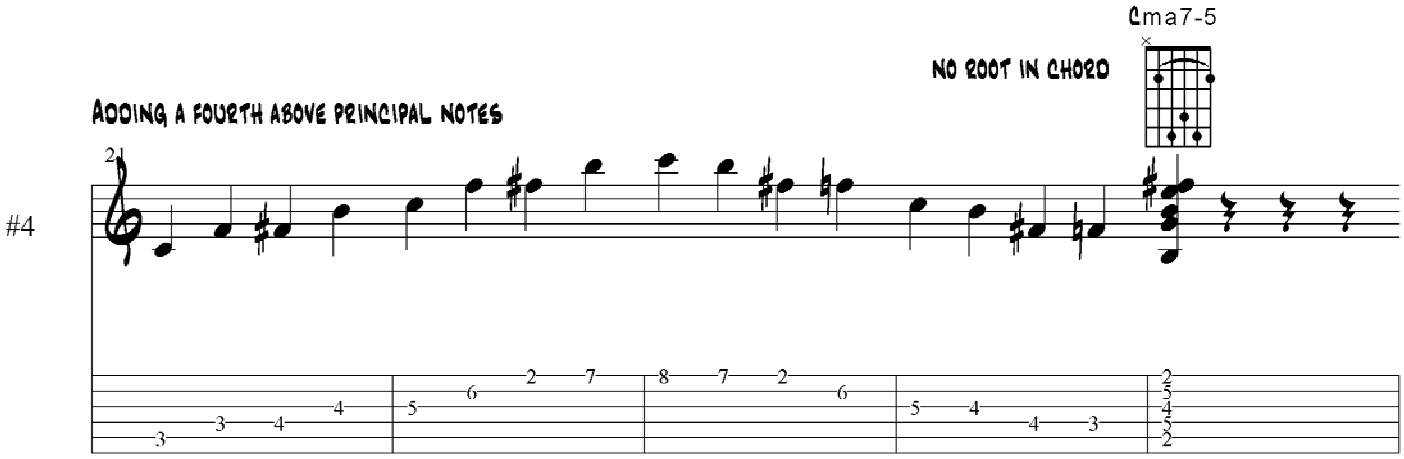
C dim 7	**B7-9**
Eb dim 7th	**D7-9**
Gb dim 7th	**F7-9**
A dim 7th	**Ab7-9**

Each one of these chords will repeat by moving up the neck 3 frets (minor third movement)

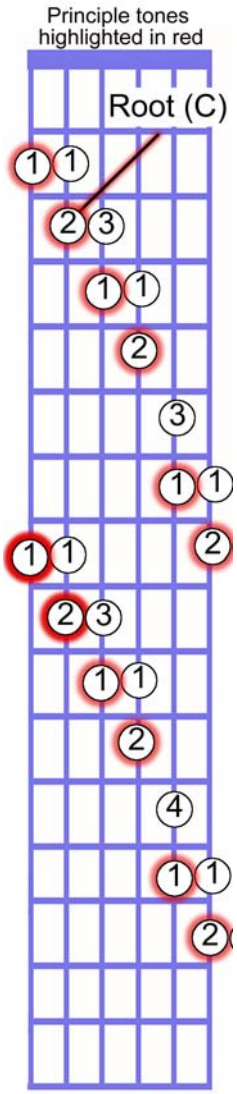
A dim 7	**C dim 7**	**D#/Eb dim 7**	**F#/Gb dim 7**
			
			
			

Exercise #4

Exercise number two uses the same principal tones (C and F#) and adds notes2 steps above each tone (F and B)



Fingering is strictly personal and dependant upon direction and range of line.
Experiment.
IF IT SOUNDS RIGHT IT IS RIGHT



Analysis

Cluster Tones-->	C	F	F#/Gb	B	chord implied	*Character
C	Octave	4th/11th	b5/#11	7	**C Lydian**	Release
C#/Db	7	3	11	b7	**C#BeBop dominant**	Release
D	b7	b3/#9	3	6th/13th	**D13#9**	Tension
D#/Eb	6th/13th	2nd /9th	b3/#9	#5/b13	**Eb13#5#9**	Tension
E	#5/b13	b2/b9	2nd /9th	5	**Eb5b9**	Tension
F	5	Octave	b9	b5/#11	**Fb5b9**	Tension
F#/Gb	b5/#11	7	Octave	4th/11th	**F#lydian**	Release
G	4th/11th	b7	7	3	**G BeBop dominant**	Release
G#/Ab	3	6th/13th	b7	b3/#9	**G#13#9**	Tension
A	b3/#9	#5/b13	6th/13th	2nd /9th	**Am9#5**	Build
A#/Bb	2nd /9th	5	#5/b13	b2/b9	**Bb-5-9**	Tension
B	b2/b9	b5/#11	5	Octave	**B-9+11**	Tension

The chromatic scale as possible roots

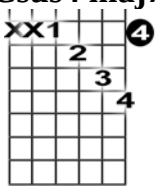
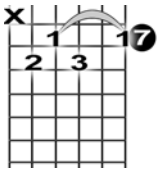
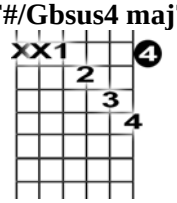
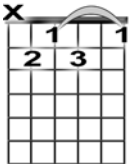
Cluster tones create these intervals when a root is chosen from chromatic scale

* **Character;** this is a rough determination as to how the chord might be used.

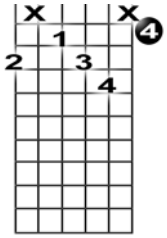
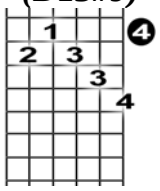
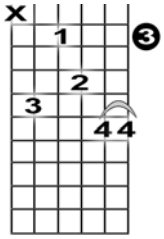
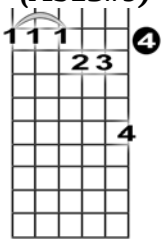
- Release= I chord
- Build= II chord
- Tension = V chord

This determination has been made by the structure, the sound and connotation will help you make the decision as to how the chord is used.

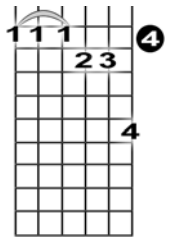
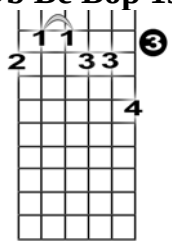
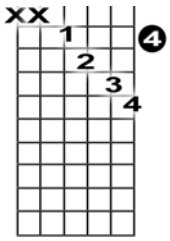
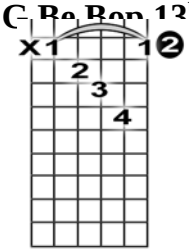
- **Cluster Tones as the <u>Root</u>**

Chord Name And Diagram	**Csus4 maj7-5** 	**F7-9+11** 	**F#/Gbsus4 maj7-5** 	**B7-9+11** 
comment	Enigmatic Quality			
13th	Not necessary	Not necessary	Not necessary	Not necessary
11th	F=11th/sus 4th	B= aug 11th	B=11th	F= aug 11th
9th	Not necessary	F#/Gb=flatted 9th	Not necessary	C= b 9th
7th	B=Maj 7th	Eb*= dom 7th	F= Maj 7th	A*= dom 7th
5th	F#/Gb= b 5th	C= 5th	C= b 5th	F#= 5th
3rd	Not necessary	A*= maj 3rd	Not necessary	D*=maj 3rd
Root	**C**	**F**	**F#/Gb**	**B**

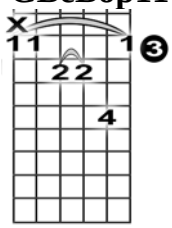
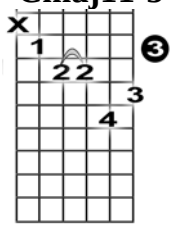
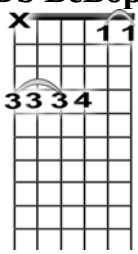
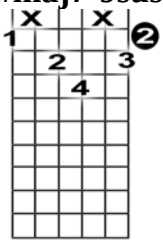
- **Cluster Tones as the <u>Flatted Third</u>**

Chord Name And Diagram	**Am13+5** 	**Dm13 b11** ***(D13#9)*** 	**Ebm13+5** 	**Abm13 b11** ***(Ab13#9)*** 
comment		Conflicted major/minor 3rd usually expressed as D13#9		Conflicted major/minor 3rd usually expressed asAb13#9
13th	F#	B	C	F
11th	Not necessary	F#/Gb (b 11th) or maj 3rd	Not necessary	C (b 11th) or maj 3rd
9th	B	F-#9	F= 9th	Bb(B=#9th)
7th	G*=dom 7th	C	Db*= dom 7th	F#/Gb= dom 7th
5th	F=#5th	A	B=#5th	Eb
b 3rd	**C**	**F=b3rd or # 9th**	**F#/Gb**	**B=b 3rd or # 9th**
Root	A*	D*	Eb*	Ab*

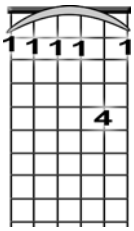
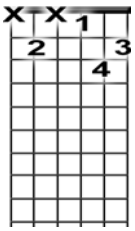
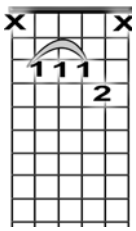
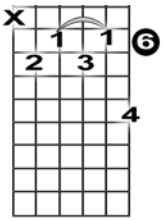
Cluster Tones as the <u>Maj Third</u>

Chord Name And Diagram	**Ab13#9** 	**Db Be Bop 13th** 	**D13#9** 	**C- Be Bop 13th** 
comment		B and C are both part of the pattern implying a BeBop 7th Scale (both dom and major 7th present)		F and F# are both part of the pattern implying a BeBop 7th Scale (both dom and major 7th present)
13th	F	Bb	B	E
11th	D= 11th	F#Gb= 11th	1	C
9th	B=#9th	Eb	F=#9th	A
7th	F#/Gb	B=dom 7th<C= maj 7th	C	F#/Gb=Maj 7th <F=dom 7th
5th	Eb*	Ab*	A*	D*
3rd	**C**	**F**	**F#/Gb**	**B**
Root	Ab*	Db*	D*	G*

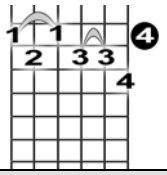
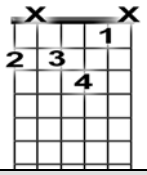
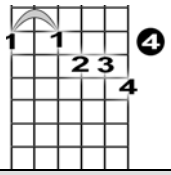
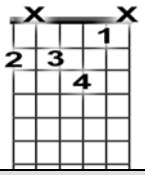
Cluster Tones as the <u>Fourth/Eleventh</u>

Chord Name And Diagram	**GBeBop11** 	**Cmaj11-5** 	**Db BeBop 11** 	**F#maj7-9sus11** 
comment			A rare chord, but worth the effort, it has 6 different notes	
13th	Not necessary	Not necessary	Not necessary	Not necessary
11th	**C**	**F#/Gb=aug 11th**	**F#/Gb=11th**	**B**
9th	Not necessary	Not necessary	Not necessary	G=flatted 9th
7th	F<F#>	B= Maj 7th	B<C>	F = maj 7th
5th	Not necessary	F#/Gb= flatted 5th	Ab	C= flatted 5th
4th	**C**	**F**	**F#/Gb**	**B**
3rd	**B**	Not necessary	<F>	Not necessary
Root	**G**	**C**	**Db**	**F#/Gb**

Cluster Tones as the <u>Fifth</u>

Chord Name And Diagram	**FMa7-5-9** 	**Bb7-9-13** 	**B Ma7 b5 b9** 	**E 13-9** 
comment			Could called Lydian major flat 9 No root	
13th	Not necessary	F#/Gb= b 13th		C= 13th
11th	Not necessary	Not necessary		Not necessary
9th	F#=b 9th	B=b 9th	C=b 9th	F=b 9th
7th	B=maj 7th	Ab*= dom 7th	Bb=Ma 7th	D=dom 7th
5th	**<B=b 5th > C= 5th**	**F**	**<F=b 5th > F#/Gb**	**B**
3rd	**A**	**D**	**D#**	**G#**
Root	**F**	**Bb**	**B**	**E**

Cluster Tones as the <u>Seventh</u>

Chord Name And Diagram	**D9#5** 	**F#/Gb 7 -5** 	**Ab9#5** 	**C7-5** 
comment		reciprocal of C7-5		reciprocal of Gb7-5
13th	Not necessary	Not necessary	Not necessary	Not necessary
11th	Not necessary	Not necessary	**F#/Gb**	Not necessary
9th	E=9th	Not necessary	Bb=9th	Not necessary
7th	**C=dom 7th**	**E= dom 7th**	**F#/Gb= dom 7th**	**Bb= dom 7th**
5th	Bb=#5th	C=flatted 5th	E= #5th	F#/Gb= flatted 5th
3rd	**F#/Gb= 3rd**	**A#/Bb=3rd**	**C=3rd**	**E=3rd**
Root	**D***	**F#/Gb**	**Ab***	**C**

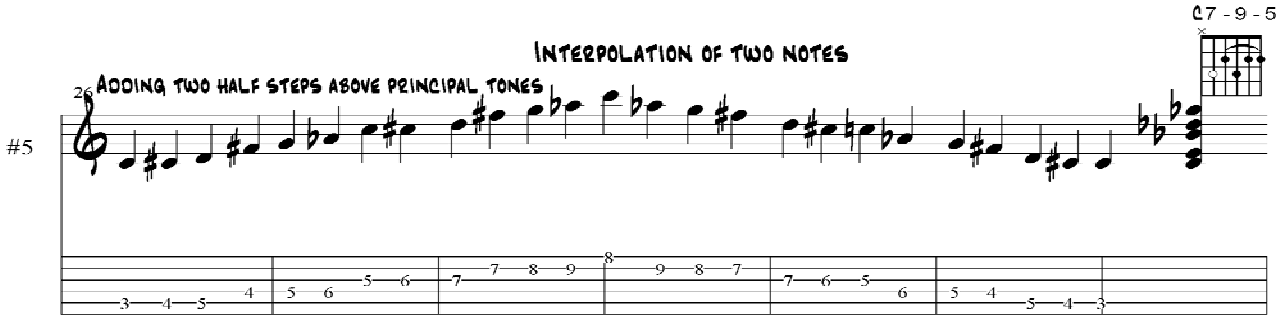
Cluster tones as the Major 3rd and Dominant 7th are perhaps the most useful forms, and the most clearly stated sounds. IF IT SOUNDS RIGHT, IT IS RIGHT!

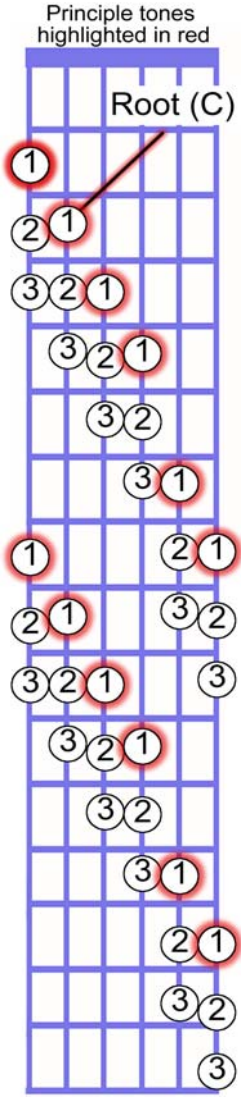
In summary:

This relationship, i.e., cluster tones C, E, Gb, Bb brings out much of what was generated in previous patterns. Your ear and discretion will have much influence on what you choose to play. Essentially you must look for a predominant sound that the pattern creates, i.e., major or minor; dominant or major 7th, etc.

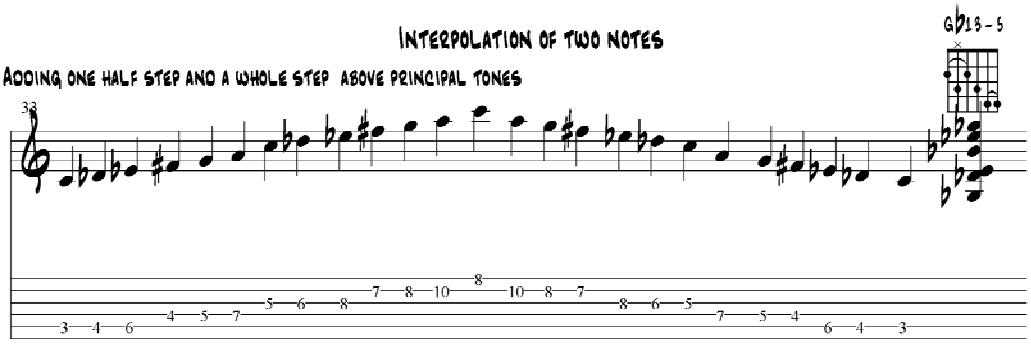
Summary

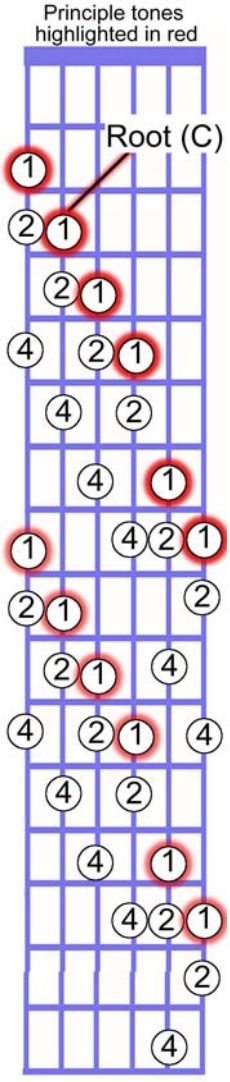
Because of an increasing redundancy of tonal quality I will attempt to condense the remaining exercises by presenting the exercises (the tonal clusters) and encourage experimentation.



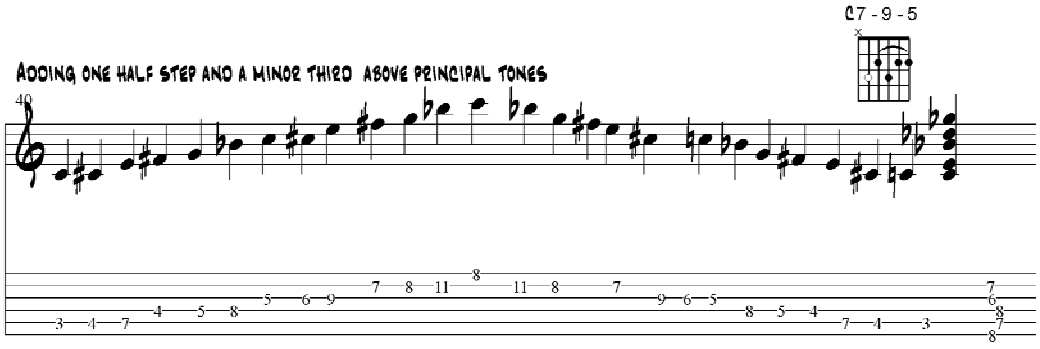


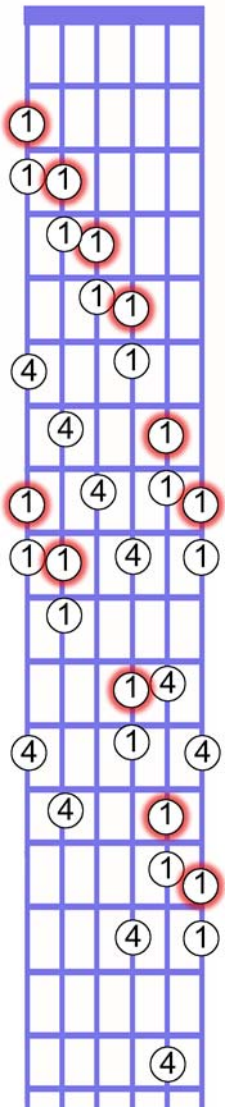
#6

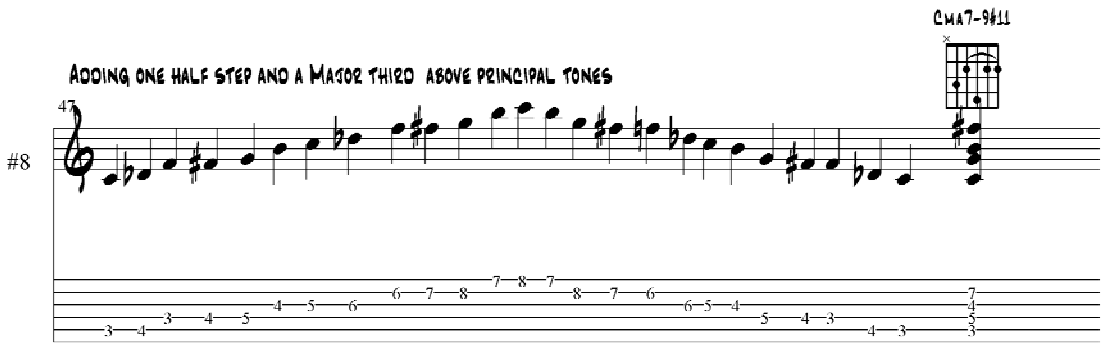

INTERPOLATION OF TWO NOTES
ADDING ONE HALF STEP AND A WHOLE STEP ABOVE PRINCIPAL TONES
Gb13-5


Principle tones
highlighted in red
Root (C)

#7


C7 - 9 - 5
ADDING ONE HALF STEP AND A MINOR THIRD ABOVE PRINCIPAL TONES




Cmaj7-9#11
Adding one half step and a Major third above principal tones
#8