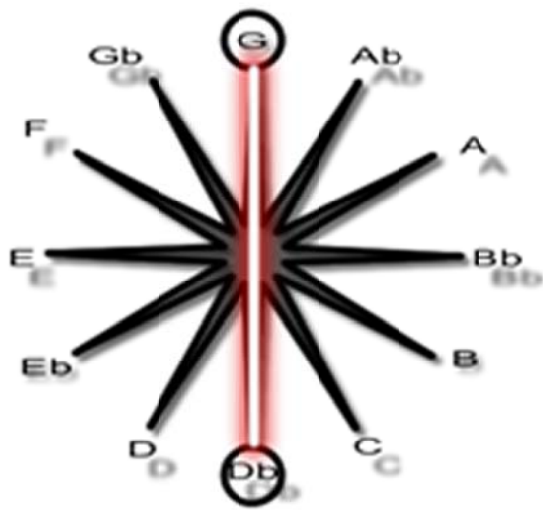
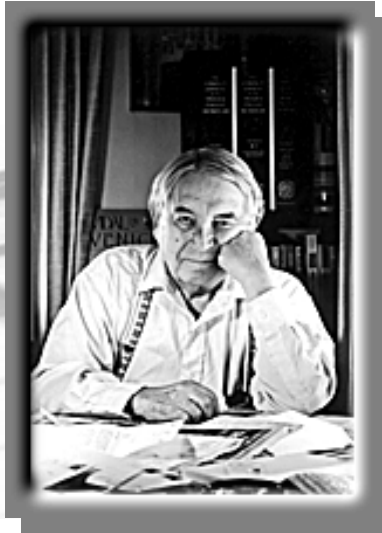


Symmetrical Harmonies for Jazz Guitar



"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.



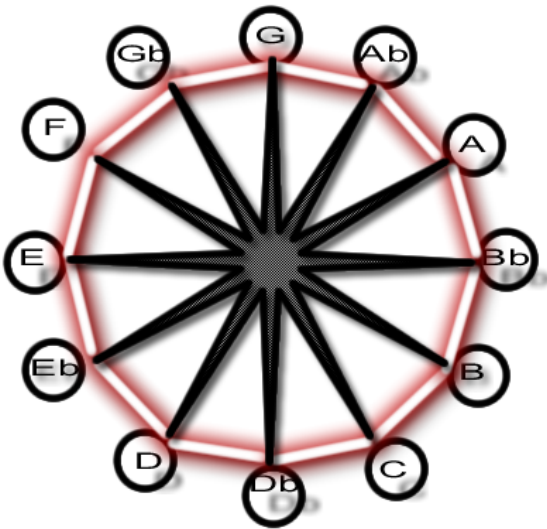
It is generally rumored that John Coltrane studied his book. Included in the studies of the book are patterns and harmonies that are created by dividing the octave or octaves into equal parts that are evident in Coltrane's work.

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.

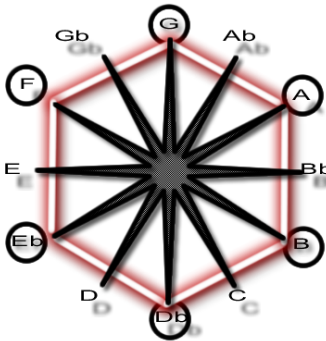
Having 12 half steps to the octave creates divisions that are factors of 12.



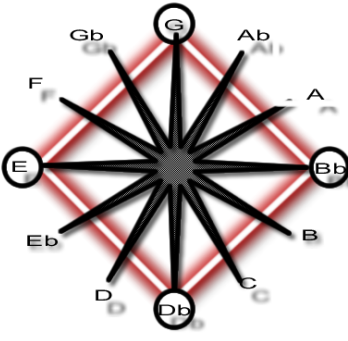
One octave may contain 12 divisions.
This would yield a Chromatic scale.

Here are the possibilities for equal divisions of one octave

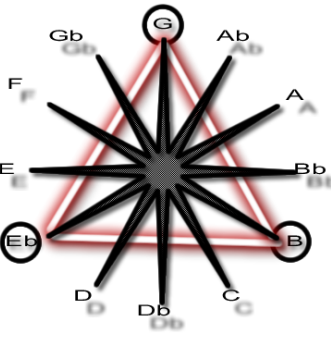
Divisions	12	6	4	3	2
scale or interval	Chromatic	Whole tone	Diminished	Augmented	Tritone



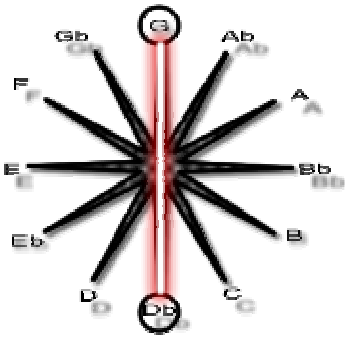
Whole tone



Diminished



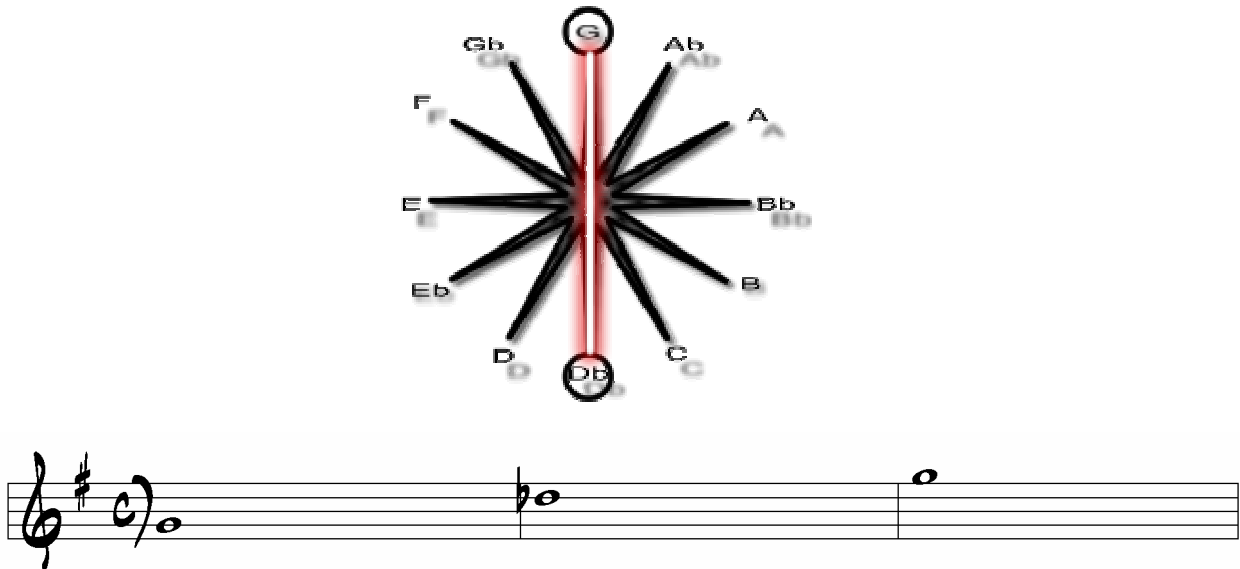
Augmented



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 $\frac{1}{2}$ 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 sharpened...
 - -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

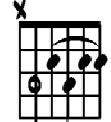
PAGE 1

EXERCISES 1-4

ONE OCTAVE DIVIDED INTO TWO PARTS

INTERPOLATION OF ONE NOTE

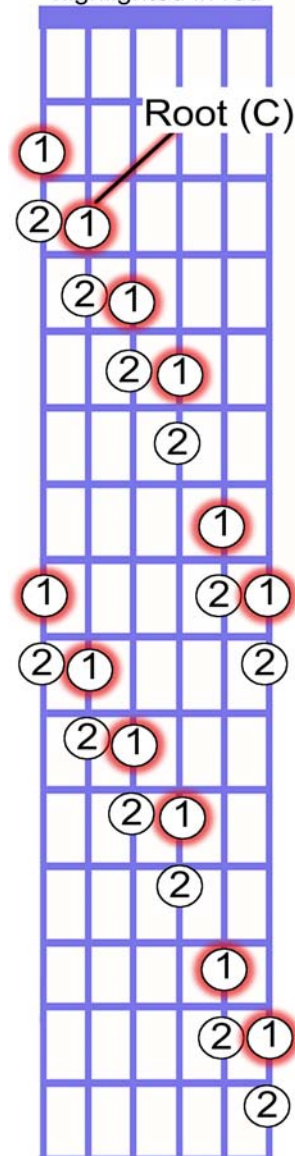
Q7-9-5



#1

The image shows a musical score for the song 'The Rose Tree'. The top staff is a treble clef melody in C major, 4/4 time. The bottom staff is a guitar accompaniment with fret numbers. The melody consists of a series of eighth and quarter notes, ending with a triplet of eighth notes. The guitar accompaniment features a simple bass line with fret numbers 3, 4, 4, 5, 5, 2, 2, 3, 8, 3, 2, 2, 5, 5, 4, 4, 3.

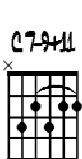
Principle tones
highlighted in red



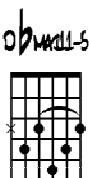
Here are some of the chords suggested by this pattern.

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

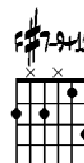
Please note that the chords in staff notation are the theoretical possibility. The diagram is a compromise that is aimed towards functionality.



C as root
C7-9+11



Db as root
Dbmaj11-5



F# as root
F#7-9+11



G as root
Gmaj7-5



The tone cluster-
The names could be;

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	
<div>The chromatic scale as possible roots</div>	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>

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

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 ROOT**

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
11 th	F# = +11	G = +11 (F# = 11 not used)	C = +11	C = (11 th not used)
9 th	Db (C#) = b9	Eb* = 9	G = -9	Not necessary
7th	Bb* = dom7	C = Ma 7	E*	F# = Maj7
5 th	G = 5 th	Ab* = Ma 3 rd	C#	Db = flatted 5 th
Ma3rd	E* = 3 rd	F*	A#*	B* = 3 rd
Root	C	C#/Db	F#/Gb	G

▪ **Cluster Tones as the Minor Third**

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 3 rd conflict	OK choice though somewhat distant. Watch the 13/flat 13 conflict <conflict>
13th	F# = 13 th	G = 13 <F# = b13 th >	C	C = b13 <conflict with C#>
11 th	Not necessary	Not necessary	Ab	Not necessary
9 th	B* = 9 th	C	F	F# = 9 th
7th	G = dom 7 th	Ab*	Db	D* = dom 7 th
5 th	E* = 5 th	E#/F	Bb*	B* = 5 th
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 Major Third

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

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

▪ Cluster Tones as the Fifth

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!
13 th	Not necessary	Not necessary	Not necessary	Not necessary
11 th	Not necessary	Not necessary	Not necessary	F# aug 11 th
9 th	F# 9=flat 9 th /<G>9 th	G=flatted 9 th	C=flatted 9 th <C#>	C#=flatted 9 th
7 th	Eb*	E	A	Bb*
5 th	C (principle tone) <C#=#5th>	<C=flatted 5 th >C#/ Db(embellishment)	F# (principle tone) <G=sharp 5th>	G (embellishment)
3 rd	A	A#	D#	E*
Root	F	F#	B	C

▪ Cluster Tones as the Seventh

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


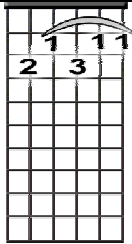
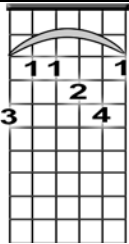
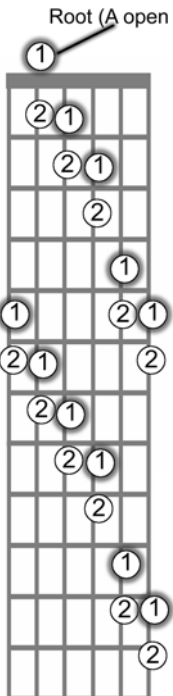
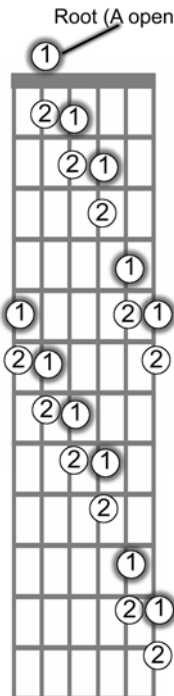
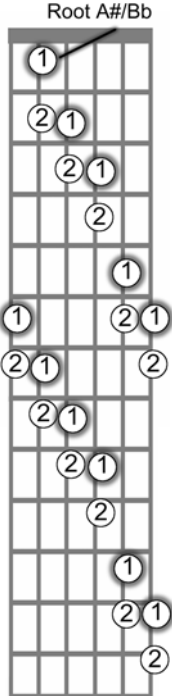
Tritone exercise #1 suggests chords that are appropriate for “two, five, one” sequences but the suggested chords are in different keys. This would suggest that moving the tritone exercise to a couple of different starting points we might be able to cover the two, five, one sequence with very little movement

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

<u>Chords implied root of cluster=C</u>	<u>Chords implied root of cluster=G</u>	<u>Chord Quality</u>
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

#2

6

ADDING NOTE 1 WHOLE STEP ABOVE PRINCIPAL TONES

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	
The chromatic scale as possible roots	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	

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

Cluster Tones as the Root

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)
13 th	Not necessary	Not necessary	Not necessary	Not necessary
11 th	F# = +11	Not necessary	C = +11 th	Not necessary
9 th	D = 9 th	Not necessary	G# = 9 th	Not necessary
7 th	Bb	C = Dom 7 th	E*	F# = Dom7
5 th	G# = #5 th	G# = -flatted 5 th	D = #5 th	D = flatted 5 th
3 rd	E* = 3 rd	F# = 3 rd	A#*	C = 3 rd
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 Minor Third

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

▪ Cluster Tones as the Major Third

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 3 rd in bass		Note the relationship to Bb9#5 (tritone)
13 th	Not necessary	G#/Ab	Not necessary	Not necessary
11 th	Not necessary	Not necessary	Not necessary	Not necessary
9 th	Not necessary	C= 9 th	Not necessary	F#/Gb= 9 th
7 th	F#/Gb=dom 7 th	Ab= dominant 7 th	C=dom7 th	D=dom 7 th
5 th	D=b5 th	F#=# 5 th	G#/Ab=flatted 5 th	C(B#)= sharp 5 th
Major 3 rd	C	D	F#/Gb	G#/Ab
Root	Ab	Bb*	D	E*

Cluster Tones as the Fourth

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

Cluster Tones as the Fifth

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 6 th string		Flexible 2 nd finger helps make this work. Using 5 th or 6 th string rather than both will work also.
13 th	D = 13 th	Not necessary	Ab = 13 th	Not necessary
11 th	Bb = 11 th	C	Not necessary	F#/Gb = 11 th
9 th	F#/Gb = flatted 9 th	G#/Ab = flatted 9 th	C = flatted 9 th	D = flatted 9 th
7 th	Eb = dom 7 th	F#/Gb = Maj7	No 5 th	C = maj 7 th
5 th	C	D	F#/Gb = sus 4th	G#/Ab
3 rd	G#/Ab = flatted 3 rd	B*	D = flatted 3 rd	Eb = flatted 3 rd <i>not used</i>
Root	F	G*	B	C#

▪ Cluster Tones as the Dominant 7th

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

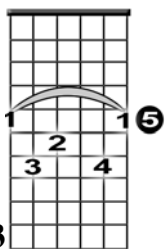
The chords generated in exercise #2

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	A_{mi} (maj7) 13	Dbmaj7-9sus4	Eb _{mi} (maj7) 13
F_{mi}13-9	GMaj11-9	Bm13-9	C#_{mi}11-9 nat 7
D7-5	E9-13	Ab13+11	Bb9+5

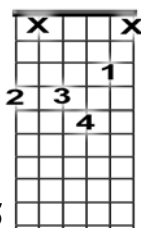
From the above chart chord choices that satisfy the II, V, I chord progression may be made with no transposition. To make this work with a single note line, notes outside of the chord cluster will have to be played to establish and define the chord movement.

II, V, I

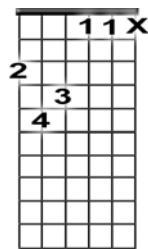
Ami (maj7) 13



D7-5

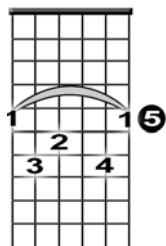


GMaj11-9

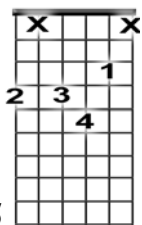


Because of the rather dissonant I chords (the GMaj7 and D maj7 have an unsettling flatted 9th) it would be better to resolve to a more tonic quality harmony such as the G maj7-5 from exercise #1.

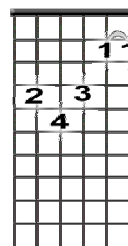
Ami (maj7) 13



D7-5



Gmaj7-5

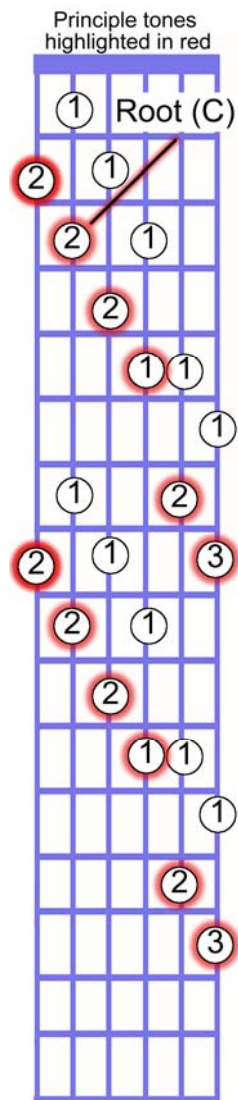


Resolve using pattern from exercise#1

“IF IT SOUNDS RIGHT, IT IS RIGHT!”

Exercise number two uses the same principal tones (C and F#) and adds notes 2 steps above each tone (E and A#/Bb)

A 4x4 grid with four dots at (1,1), (2,2), (3,3), and (4,4) and four 'x' marks at (1,4), (2,3), (3,2), and (4,1).



Analysis

Cluster Tones-->		C	E	F#/Gb	A#/Bb	<u>chord implied</u>	*Character
The chromatic scale as possible roots	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

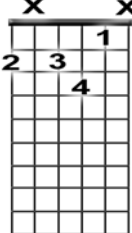
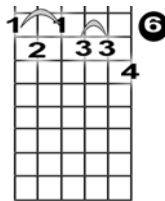
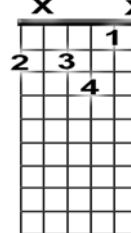
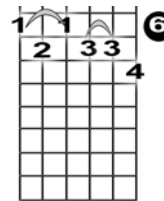
Cluster tones create these intervals when a root is chosen from chromatic scale

* **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 Root

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
13 th	Not necessary	C=-flatted13 th	Not necessary	F#/Gb=b 13 th
11 th	Not necessary	Not necessary	Not necessary	Not necessary
9 th	Not necessary	F#/Gb=9 th	Not necessary	C=9 th
7 th	Bb= b7 th	D*=dom 7 th	E= b7 th	Ab*=dom 7 th
5 th	F#/Gb=b 5 th	Bb=b 5 th	C=b 5 th	E=b 5 th
3rd	E=3 rd	G#/Ab*= 3 rd	Bb= 3 rd	D*= 3 rd
Root	C	E	F#/Gb	Bb

▪ Cluster Tones as the Flatted Third

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 11 th (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 5 th
13 th	F#/Gb= 13 th	Bb	C= 13 th	E= 13 th
11 th	Not necessary	F#/Gb=11 th	Ab*=11 th	C= 11 th
9 th	Bb=b 9 th	Not necessary	E=flatted 9 th	A* 9 th added for ease of playing
7 th	G*	C=maj 7 th	Db*=7 th	F#=maj 7 th
5 th	E=5th	Ab *	Bb= 5 th	D*
b 3rd	C	E	F#/Gb	Bb
Root	A*	Db/C#*	Eb*	G*

Cluster Tones as the Maj Third

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
13 th	Not necessary	Not necessary	Not necessary	Not necessary
11 th	Not necessary	Not necessary	Not necessary	Not necessary
9 th	Bb= 9 th	Not necessary	E= 9 th	Not necessary
7 th	F#/Gb= dom 7 th	Bb= b7 th	C= b7 th	E = b7 th
5 th	E=#5 th	F#/Gb= b5 th	Bb= #5 th	C= b5 th
3rd	C	E	F#/Gb	Bb
Root	Ab*	C	D*	F#/Gb

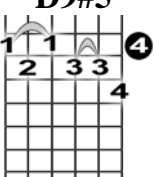
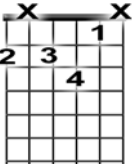
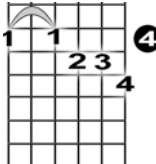
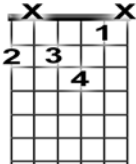
Cluster Tones as the Fourth/Eleventh

Chord Name And Diagram	Gmi13 maj7	Bmi11-9maj7	Dbmi 13 maj7	Fmi11-9maj7
comment	Not all components appear in the form...			
13 th	E=13 th	Not necessary	Bb=13 th	Not necessary
11 th	C	E	F#/Gb	Bb
9 th	Not necessary	C= flatted 9 th	Not necessary	Gb=flatted 9 th
7 th	Gb/F# = maj7 th	Bb= maj7 th	C= maj7 th	E=maj 7 th
5 th	D*=5 th	F#/Gb= 5 th	Ab*= 5 th	C=5 th
4 th	C	E	F#/Gb	Bb
3rd	Bb=flatted 3 rd	D*=flatted 3 rd	E= flatted 3 rd	Ab*=flatted 3 rd
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			
13 th	Not necessary	F#/Gb= 13 th	Not necessary	C= 13 th
11 th	Bb	Not necessary	E = 11th	Not necessary
9 th	F#/Gb=b 9 th	Bb=b9 th	C =b9 th	E=b 9 th
7 th	E= maj 7 th	G*= dom 7 th	Bb= maj 7 th	Db= dom 7 th
5 th	C	E	F#/Gb	Bb
3rd	A*	C=flatted 3 rd	D#/Eb=3 rd	F#/Gb=mi 3 rd
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
13 th	Not necessary	Not necessary	Not necessary	Not necessary
11 th	Not necessary	Not necessary	F#/Gb	Not necessary
9 th	E=9 th	Not necessary	Bb=9 th	Not necessary
7 th	C=dom 7th	E= dom 7th	F#/Gb= dom 7th	Bb= dom 7th
5 th	Bb=#5 th	C=flatted 5 th	E= #5 th	F#/Gb= flatted 5 th
3 rd	F#/Gb= 3rd	A#/Bb=3rd	C=3rd	E=3rd
Root	D*	F#/Gb	Ab*	C

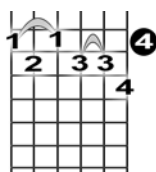
Cluster tones as the Major 3rd and Dominant 7th are perhaps the most useful forms, and the most clearly stated sounds. IF IT SOUNDS RIGHT, IT IS RIGHT!

In summary:

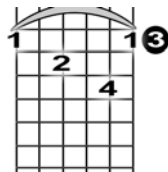
This relationship, i.e., cluster tones C, E, Gb, Bb generate a strong flatted fifth sound, as should be obvious because the cluster is a flat five chord in itself. The minor13th maj7th make an interesting release chord in the right setting.

Here is a resolution using only pattern #3 and the chords that are generated from it.

D9#5



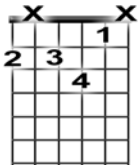
Gmi13 maj7



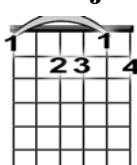
It may a bit of a stretch to hear it the first couple of times but with repetition it will start making musical sense.

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 notes 1 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

ADDING NOTE MINOR THIRD ABOVE PRINCIPAL NOTE (NOTE : THIS DOES NOT APPEAR IN THE ORIGINAL WORK)

#3*

The musical notation shows a melodic line on a treble clef staff. The notes are: C4, D4, E4, F#4, G4, A4, Bb4, C5, D5, E5, F#5, G5, A5, Bb5, C6. The fretboard diagram below shows the positions of these notes on a 6-string guitar. The notes are: C (1st fret, 1st string), D (2nd fret, 1st string), E (3rd fret, 1st string), F# (4th fret, 1st string), G (5th fret, 1st string), A (5th fret, 2nd string), Bb (4th fret, 2nd string), C (5th fret, 2nd string), D (6th fret, 2nd string), E (6th fret, 3rd string), F# (7th fret, 3rd string), G (7th fret, 3rd string), A (7th fret, 4th string), Bb (6th fret, 4th string), C (6th fret, 4th string).

Principle tones highlighted in red

Root (C)

The fretboard diagram shows the positions of the principal tones C and F# on a 6-string guitar. The notes are: C (1st fret, 1st string), D (2nd fret, 1st string), E (3rd fret, 1st string), F# (4th fret, 1st string), G (5th fret, 1st string), A (5th fret, 2nd string), Bb (4th fret, 2nd string), C (5th fret, 2nd string), D (6th fret, 2nd string), E (6th fret, 3rd string), F# (7th fret, 3rd string), G (7th fret, 3rd string), A (7th fret, 4th string), Bb (6th fret, 4th string), C (6th fret, 4th string). The notes C and F# are highlighted in red.

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.

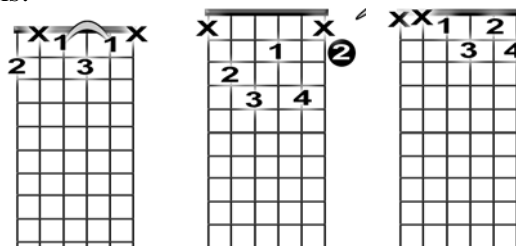
The diminished arpeggio presents a unique situation. Each note of the pattern can be considered the root so playing any diminished implies four diminished chords. This is due to the fact that all notes are equally spaced from one another. Also when considering roots outside of the roots suggested by 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
The chromatic scale as possible roots	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	E maj7-13	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

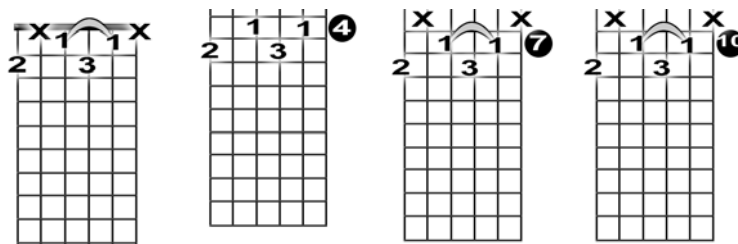
Cluster tones create these intervals when a root is chosen from chromatic scale

I use only 3 diminished chord forms:



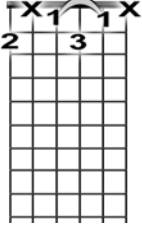
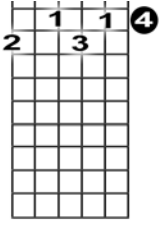
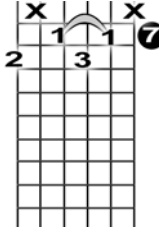
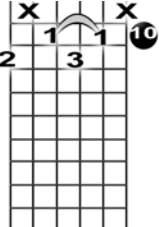
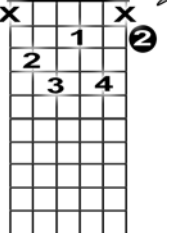
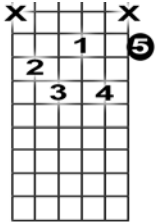
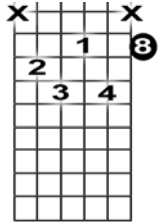
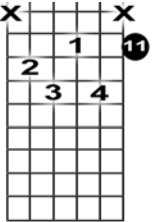
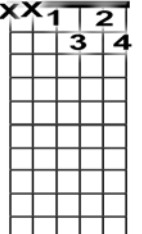
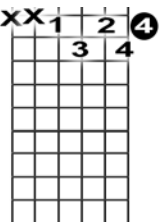
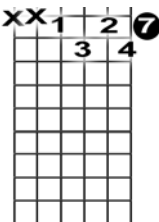
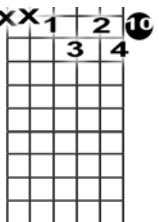
Each chord shown has the same roots; C, Eb, Gb, or A

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 Root

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
3 rd	Eb = b3 rd	Gb= b3 rd	A= b3 rd	C= b3 rd
Root	C	D#/Eb	F#/Gb	A

▪ Cluster Tones as the Flatted Third

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*

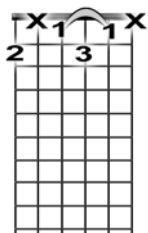
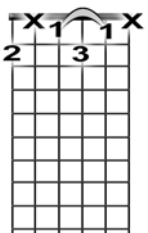
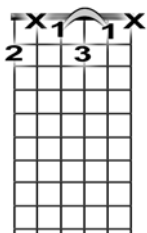
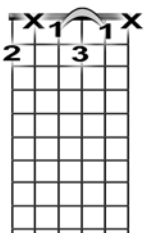
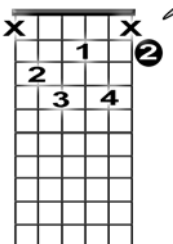
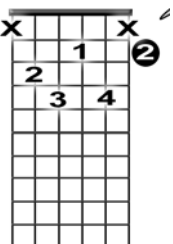
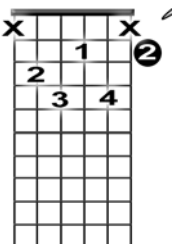
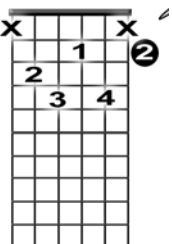
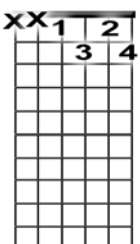
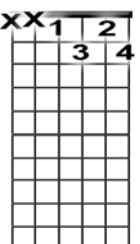
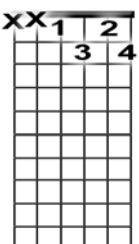
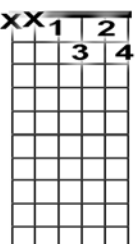
Cluster Tones as the Fourth/Eleventh

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.
13 th	D#=b13 th	F#/Gb= b13 th	A= b13 th	C= b13 th
11 th	C	D#/Eb	F#/Gb	A
9 th	A=9 th	C= 9 th	D#/Eb= 9 th	Not necessary
7 th	Gb/F# = maj7 th	A= maj7 th (9 not used)	C= maj7 th	D#/Eb = maj7 th
5 th	D#=#5 th	F#/Gb= #5 th	A= #5 th	C= #5 th
4 th	C	D#/Eb	F#/Gb	A
3rd	B= 3 rd	D=3 rd	F=3 rd	G#=3 rd
Root	G	Bb	Db	E

Cluster Tones as the Fifth

Chord Name And Diagram	F7-9	Ab 7-9	B7-9	D7-9
comment				
13 th	Not necessary	Not necessary	Not necessary	Not necessary
11 th	Not necessary	Not necessary	Not necessary	Not necessary
9 th	F#/Gb=b 9 th	A=b9 th	C =b9 th	D#/Eb=b 9 th
7 th	Eb= dom 7 th	F#/Gb= dom 7 th	A=dom 7 th	C= b7 th
5 th	C	D#/Eb	F#/Gb	A
3rd	A	C	D#/Eb=3rd	F#/Gb=3rd
Root	F*	Ab*	B*	D*

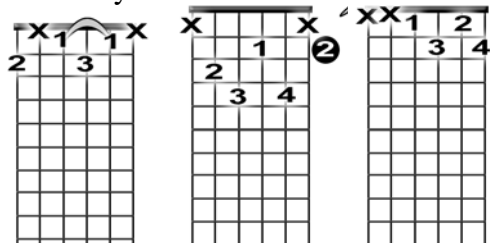
Cluster Tones as the Seventh

Chord Name And Diagram	D 7-9	F7-9	Ab7-9	B7-9
				
				
				
comment				
13 th	Not necessary	Not necessary	Not necessary	Not necessary
11 th	Not necessary	Not necessary	F#/Gb	A
9 th	D#/Eb=b 9 th	F#/Gb=b 9 th	Eb=b 9 th	Gb
7 th	C	D#/Eb	F#/Gb	A
5 th	A=5 th	C=5 th	A= #5 th	C= #5 th
3 rd	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
E^b dim 7th	D7-9
G^b dim 7th	F7-9
A dim 7th	A^b7-9

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

A dim 7	C dim 7	D [#] /E ^b dim 7	F [#] /G ^b dim 7

Exercise #4

Exercise number two uses the same principal tones (C and F#) and adds notes 2 steps above each tone (F and B)

ADDING A FOURTH ABOVE PRINCIPAL NOTES

NO ROOT IN CHORD

C^{ma}7-5

#4

3 3 4 4 5 6 2 7 8 7 2 6 5 4 4 3 2

Fingering is strictly personal and dependant upon direction and range of line.

Experiment.

IF IT SOUNDS RIGHT IT IS RIGHT

Principle tones
highlighted in red

Root (C)

Analysis

Cluster Tones-->		C	F	F#/Gb	B	<u>chord implied</u>	*Character
The chromatic scale as possible roots	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	

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 Root

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

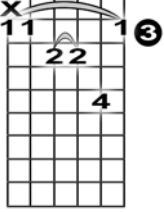
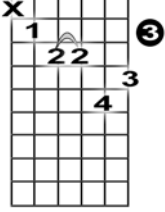
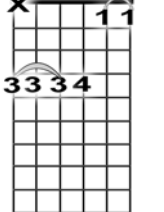
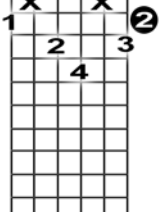
▪ Cluster Tones as the Flatted Third

Chord Name And Diagram	Am13+5	Dm13 b11 (D13#9)	Ebm13+5	Abm13 b11 (Ab13#9)
comment		Conflicted major/minor 3 rd usually expressed as D13#9		Conflicted major/minor 3 rd usually expressed as Ab13#9
13 th	F#	B	C	F
11 th	Not necessary	F#/Gb (b 11 th) or maj 3 rd	Not necessary	C (b 11 th) or maj 3 rd
9 th	B	F-#9	F= 9 th	Bb(B=#9 th)
7 th	G*=dom 7 th	C	Db*= dom 7 th	F#/Gb= dom 7 th
5 th	F=#5 th	A	B=#5 th	Eb
b 3 rd	C	F=b3 rd or # 9 th	F#/Gb	B=b 3 rd or # 9 th
Root	A*	D*	Eb*	Ab*

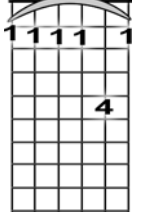
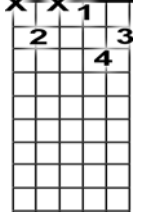
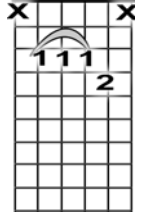
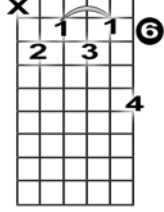
Cluster Tones as the Maj Third

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

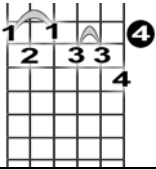
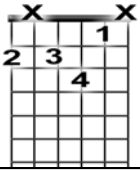
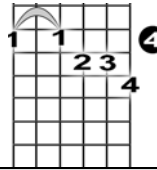
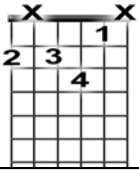
Cluster Tones as the Fourth/Eleventh

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	
13 th	Not necessary	Not necessary	Not necessary	Not necessary
11 th	C	F#/Gb=aug 11th	F#/Gb=11th	B
9 th	Not necessary	Not necessary	Not necessary	G=flatted 9 th
7 th	F<F#>	B= Maj 7 th	B<C>	F = maj 7 th
5 th	Not necessary	F#/Gb= flatted 5 th	Ab	C= flatted 5 th
4 th	C	F	F#/Gb	B
3rd	B	Not necessary	<F>	Not necessary
Root	G	C	Db	F#/Gb

Cluster Tones as the Fifth

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	
13 th	Not necessary	F#/Gb= b 13 th		C= 13 th
11 th	Not necessary	Not necessary		Not necessary
9 th	F#=b 9 th	B=b 9 th	C=b 9 th	F=b 9 th
7 th	B=maj 7 th	Ab*= dom 7 th	Bb=Ma 7 th	D=dom 7 th
5 th	<B=b 5 th > C= 5 th	F	<F=b 5 th > F#/Gb	B
3rd	A	D	D#	G#
Root	F	Bb	B	E

Cluster Tones as the Seventh

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