Comments on Ted's "Modulation" page

From Paul Vachon:
This page comes from Ted's *Private Music Studies* papers, and was written only for him; it was not intended as a student hand-out, so it needs some explanation. On this page Ted was exploring various ways to modulate using a minor 6, augmented, dominant 7, and dominant 7b9 chords on different degrees of the new key – the "target" key.

It was difficult to try to determine an "order" for which the comments and lists should be laid out. Some of the comments may seem disjointed. We decided to put the listing of minor 6th chord modulators first, then add some of Ted's comments about options after that, and lump all the rest at the end.

As mentioned in my "Editor's note," Ted used the minor 6 chords for the "pivot" chord or modulator, and placed it on various degrees of the new "target" key. These experiments allow one to hear how well the m6 chord can transition into the new key.

For the first list, Ted uses the bviim6. Remembering that the minor 6 is closely related to a dominant 9 built up a 4th, Ted has listed this option in parentheses. In #1, the pivot chord of bviim6 (bIII7) is Am6 (or D9) – or you could also think of it as an F#m7b5. Listen to that sound of starting in the key of C, then moving to the key of B using its bviim6. That is what he's defining in #1.

In the #2 thru #10 the same pivot chord is used to get to the target key, but the relationship of the starting key and the pivot chord changes. I think a lot of these examples are for ear-training purposes: "How does this sound?"

In the next list he does a similar experiment but using a vim6 (II7) as the pivot chord. How does that sound? It might be wise to do these all with good voice-leading to really hear the voices move most effectively, logically, and musically.

In the listing of augmented chord Ted is confining his experiments to the use of augmented chords built on the I, V, IV, and II of the starting key. So, from a start in C, he's using C+, G+, F+ and D+ to modulate to a variety of new keys. How does that sound? Work up some nice voice-leading on these.

Next, he tries using bIII$^{\Delta}$7 or bIII7 to all major keys and all minor keys.
This could be interpreted as using the bIII of the starting key, or the target key.

Starting key: C – Eb$^{\Delta}$7 → F (new major key) or to Fm (new minor key).
Starting key: C – Eb7 → F (new major key) or to Fm (new minor key).
Target key: C – Ab$^{\Delta}$7 → F (new major key) or to Fm (new minor key).
Target key: C – Ab7 → F (new major key) or to Fm (new minor key).

And of course, when you arrive in the new key, you don't necessarily have to go directly to the I chord. You may instead play a progression in that key: C – Ab$^{\Delta}$7 → Gm7 – C7 – Fmaj7.

The section on dominant 7 pivot chords deals with just the III7 and the VII7 degrees of the target key.

For the section on progression using 7b9 chords, Ted wrote, "in C→" but it seems that the examples are in more than just the key of C.

At the end of the transcribed page is a collection of ideas, reminders, etc., for Ted to further enhance these experiments/examples

I hope this helps in getting some ideas from this page.
~ Paul Vachon.

Comments on Ted's "Modulation" page

From James Hober:

Ted is investigating pivot chords that are not common and he's trying to consider all possibilities. He's being very concise in that he's not writing confirmatory chords of a key.

So when he writes:
1) C…Am6 B…Abm6 Bb etc.
It must mean something like, "Establish the key of C (with I IV V I or something), then play vim6 (= Am6) which becomes bviim6 in the new key of B, and then establish the key of B. Then you can chain this modulation: vim6 (= Abm6) in the key of B is viim6 in the key of Bb. And the "etc." means that you can continue to chain with the key areas descending by half step: C to B to Bb to A and so on.

The second one:
2) C…Abm6 Bb…F#m6 Ab etc.
has the key areas descending by whole step, and so on.

Now, I'm not hearing things as Ted apparently did. To me, C Am6 B sounds like C F#m7b5 B, and wants to go to Em and establish the key of Em. But as Ted is being extremely terse in writing for himself, my guess is that he would have written confirmatory chords in his target keys and may not even have intended his pivot chord to move directly to the target tonic chord. Maybe the pivot would move first to V in the target key or to some other chord.

As pointed out in Paul's "Editor's note," the section heading "Using bviim6 (bIII7) as Pivot" must mean that the bviim6 has that function in the target key, not in the source key.

Ted definitely wanted to catalog all possible pivot chord modulations. Here he is in the process of that exploration. And I know he eventually had some discoveries along this line that he wanted to share with some students. He wanted to teach me something about interesting pivot chords in my lessons but we never got around to it. But looking at this page on "Modulation," jogged my memory of the lesson I had with Ted. We were talking about minor 6 chords near the end of a lesson. I think I asked Ted to explain them to me better. I told him that I could hear i, the minor tonic chord, as a minor with an added 6. And similarly iv with an added 6. But I had trouble understanding and hearing any other uses. To me it usually sounded more like the homonyms: m7b5 or dominant 9 no root, when used in other circumstances.

So then Ted started talking about the m6 on the bVII degree and how this could be a pivot chord. That sounded bizarre to me. He said we would get back to discussing such pivot chords and the lesson ended. I don't remember discussing it again, or maybe we did but I still didn't understand it. To this day, the m6 chord eludes me. No doubt Ted thought about that chord in ways that I do not understand. Perhaps if I study this personal study page of his I will understand more. Maybe you will, too.

~ James

Modulation

Ted Greene – 1974-02-12

Using ♭viim6 (♭III7) as Pivot

[First chord given is the starting key, followed by the pivot chord, which is used to modulate to the new key. In the first example the Am6 is a bviim6 in relation to the target key of B. Then Abm6 is the pivot to Bb. –Editor's note.]

1) C…Am6 B…A♭m6 B♭ etc.
2) C…A♭m6 B♭…F#m6 A♭ etc.
3) C…Gm6 A…Em6 G♭ etc.
4) C…Fm6 G…Cm6 D etc.
5) C…Em6 F#…B♭m6 C etc.
6) C…E♭m6 F…A♭m6 B♭ etc.
7) C…Dm6 E…F#m6 A♭ etc.
8) C…Gm7 - C7 Gm7 - C#m6 E♭…Em6 G♭ etc.
9) C…Cm6 D…Dm6 E etc.
10) C…B♭m6 C

Using vim6 (II7) as Pivot

1) C…G#m6 B…Gm6 B♭ etc.
2) C…Gm6 B♭…Fm6 A♭ etc.
3) C…Fm6 A♭…C#m6 E etc.
4) C…Em6 G…Bm6 D etc.
5) C…E♭m6 G♭…Am6 C
6) C…Dm6 F…Gm6 B♭ etc.
7) C…C#m6 E…Fm6 A♭ etc.
8) C…Cm6 E♭…E♭m6 G♭ etc.
9) C…B♭m6 D♭…Bm6 D etc.
10) C…Am6 C

vi, iv, ♭VI7 can be combined

ivm6 as Pivot (♭VII7)

1) C…Em6 B…D#m6 B♭ etc.
2) C…E♭m6 B♭…C#m6 A♭ etc.
3) C…(preparation with Em F) Dm6 A…Bm6 G♭ etc.
4) C…C#m6 A♭…Am6 E etc.
5) C…Cm6 G…Gm6 D etc.
6) C…B♭m6 F…E♭m6 B♭ etc.
7) C…Am6 E…C#m6 A♭ etc.
8) C…A♭m6 E♭…Bm6 G♭ etc.
9) C…Gm6 D…Am6 E etc.
10) C…Fm6 C

Also to Cm, Gm, Fm (E♭m) (Dm, Em, Am)

im6 (im6 may be replaced with im7)

1) C…B♭m6 B♭ etc.
2) C…Am6 A etc.
3) C…A♭m6 A♭ etc.
4) C…Gm6 G etc.
5) C…Fm6 F etc.
6) C…Em6 E etc.
7) C…E♭m6 E♭ etc.
8) C…Dm6 D etc.
9) C…C#m6 C# etc.
10) C…Cm6 C

Also to B♭m, Am, A♭m, Gm, Fm, Em, E♭m, Dm, C#m, and Cm

iiim6 to i

1) C…Em6 Cm6 to Cm
2) C…E♭m6 B♭m6 to B♭m
3) C…Dm6 Bm6
4) C…C#m6 Am6
5) C…Cm6 A♭m6
6) C…B♭m6 F#m6
7) C…Am6 Fm6
8) C…A♭m6 Em6
9) C…Gm6 E♭m6
10) C…Fm6 C#m6

♭iiim6 to i (Follow with ♭III etc. in new key)

1) C…E♭m6 Cm6
2) C…Dm6 Bm6
3) C…C#m6 B♭m6
4) C…Cm6 Am6
5) C…B♭m6 Gm6
6) C…Am6 F#m6
7) C…A♭m6 Fm6
8) C…Gm6 Em6
9) C…Fm6 Dm6
10) C…Em6 C#m6

♮vim6 to i

1) C…Am6 Cm6
2) C…A♭m6 Bm6
3) C…Gm6 B♭m6
4) C…Fm6 A♭m6
5) C…Em6 Gm6
6) C…E♭m6 F#m6
7) C…Dm6 Fm6
8) C…C#m6 Em6
9) C…Cm6 E♭m6
10) C…B♭m6 C#m6

♭vim6 to i

1) C…A♭m6 Cm(6)
2) C…Gm6 Bm(6)
3) C…Fm6 Am(6)
4) C…Em6 G#m(6)
5) C…E♭m6 Gm(6)
6) C…Dm6 F#m(6)
7) C…C#m6 Fm(6)
8) C…Cm6 Em(6)
9) C…B♭m6 Dm(6)
10) C…Am6 C#m(6)

Possible [embellishment] of minor keys with their ♭vm6

Use at least 3 functions in new key for maximum smoothness.

Examples: C Cm7 D♭△7 E♭7 A♭
C Cm7 D♭△7 C#m7 A♭
C Cm6 A♭m6 B7 E♭

(vm6 or 7 may be preceded with V7+)
II7 IV7 ♭VI7 in various combinations to all major and minor keys.

iim6 (vii°) to iii vi ii V

Baroque: residual functions:

C Am7 D7 G C# F# Bm….F# etc.
C or Am to B♭ via B♭ itself or Dm F7
(also to Gm)

I+, V+, IV+, II+ ← IV+ after IV II comes after V

1) C…G+ or C+ Cm or C
2) C…G+ or D+ Bm or B
3) C…F+ or D+ B♭m or B♭
4) C…F+ or C+ Am or A
5) C…C+ or G+ A♭m or A♭
6) C…G+ or D+ Gm6 or G
7) C…D+ or F+ G♭ or F#m
8) C…F+ or C+ F or Fm
9) C…C+ or G+ E or Em
10) C…G+ or D+ E♭ or E♭m
11) C…D+ or F+ Dm or D
12) C…F+ or C+ D♭ or C#m

♭III(△7)(7) to all major and minors; also IV(△7) to majors. Also ♭VII, ♭VI, v(6), ♭II.

III7

1) C…E♭7 B
2) C…D7 B♭
3) C…C7 A♭
4) C…B7 G
5) C…B♭7 G♭
6) C…A7 F
7) C…A♭7 E
8) C…G7 E♭

VII7

1) C…G7 A♭
2) C…A7 B♭
3) C…D7 E♭

Also diatonic chords
Also many ii - V's

Include iii6 to V as well as ii, iv, IV, V:
C Cm E♭7 to G, A♭, D♭, B♭, etc.
C C#m6 C#m E7 to A♭, A, D, B, etc. and so forth.

Some progressions using 7♭9s – in C:
F G7♭9 C
F E7♭9 Dm
F E7♭9 E° A7 Dm
F B♭7♭9 B♭9$^{4}_{3}$ D♭$_{6}$ E7 A♭$^{6}_{4}$
F D♭7♭9 D♭7$^{6}_{5}$ A♭$^{6}_{4}$

F D7♭9 C
F B7♭9 (B° E7) Am
F F7♭9 E♭
F A♭7♭9 Cm(6) D7 Gm

C F#7♭9 (F#°) (B7) E or Em
C A7♭9 A° D7 Gm
C A7♭9 G
C C7♭9 C° F7 B♭m
C D#7♭9 D#° G#7 C#m E7 A C#m G#7 C

Am A7♭9 Dm F#7♭9 F#° B7 E

Beethoven (in E♭): C F G7♭9$^{6}_{5}$ Dm$^{6}_{4}$ G7♭9 G7/6 C7 (E♭7) G♭7 G♭7$_{2}$ B

Connect any minor to a 7th chord ($^{4}_{3}$) whose root is a minor 3rd up.
Connect any 7th to other 7ths whose roots are major or minor 3rds up or down. (C D7 B7 E♭m)
Convert any major into a R°7 by adding leading tone of destination.

I I△7+ or I7+ (also I△9+) III or ♭VI
I I7+ iiim6

7♭9 part of any R°7 can function as V or II7 of new key.
Also think in these terms to various keys:
iii V7, iv ♭VII, ♭vi ♭II, vii III, i IV,
♭iii ♭VI, #iv VII, vi II, v I,
♭vii ♭III, iii VI – either chord may be omitted from these pairs in minor keys.
Use all ii V's – that is on all degrees.

Use diatonic chords in new keys as "pullers"
Also chromatic alterations to old key to create new key.
IV iv I ala "Valentine" intro.
II9 ♭VII9 I
Compounds; Sym. Compounds ("Bouree"); Mixed Scales; Mod. Sequences;
Sym. Mod's (include subdominant and dominant) in 4ths, ♭3rds, ♭2nds descending cycle progressions:
E A13 D13 G13 Gm7 C7 F.
Poly. Contr.; Chrom. Contr.; Direct (phrase); Rootacization; Bass line ascending and descending walks.

2-12-74

Modulation

using bvii (bVII 7) mb as pivot

1. C Amb6 B ..... Abmb6 Bb etc
2. C ... Abmb6 Bb .... F#mb6 Ab etc
3. C ... Gmb6 A .... Emb6 Gb etc
4. C ... Fmb6 G .... Cmb6 D etc
5. C ... Emb6 F# ... Bbmb6 C
6. C ... Ebmb6 F ... Abmb6 Bb etc
7. C ... Dmb6 E ... F#mb6 Ab etc
8. C .. Gm7 C7 / Gm7 C#mb6 Eb .... Emb6 Gb etc
9. C Cmb6 D ... Dmb6 E etc
10. C Bbmb6 C

II7 — using vimb as pivot

1. C G#mb6 B ... Gmb6 D etc
2. C Gmb6 Bb ... Fmb6 Ab etc
3. C Fmb6 Ab ... C#mb6 E etc
4. C Emb6 G .. Bmb6 D etc
5. C Ebmb6 Gb ... Amb6 C
6. C Dmb6 F ... Gmb6 Bb etc
7. C C#mb6 E ... Fmb6 Ab etc
8. C Cmb6 Eb ... Ebmb6 Gb etc
9. C Bbmb6 Db .. Bmb6 D etc
10. C Amb6 C

vi, iv, bVI7 can be combined — ivmb as pivot (bVII7)

1. C Emb6 B .... Dmb6 Bb etc
2. C Ebmb6 Bb .. C#mb6 Ab etc
3. C Dmb6 A .... Bmb6 Gb etc
   → prepare with Em F
4. C C#mb6 Ab ... Amb6 E etc
5. C Cmb6 G ... Gmb6 D etc
6. C Bbmb6 F ... Ebmb6 Bb etc
7. C Amb6 E ... C#mb6 Ab etc
8. C Abmb6 Eb ... Bmb6 Gb etc
9. C Gmb6 D .. Amb6 E etc
10. C Fmb6 C

also to Cm, Gm, Fm (bEm) (Dm, Em, Am)

(Vmb6a7 maybe preceded with V7+)

II7 IV7 bVII7 in various combinations to all major and minor keys

iimb6 to iii vi ii V (vii°)

imb6
1. C Bbmb6 Bb etc
2. C Amb6 A etc
3. C Abmb6 Ab etc
4. C Gmb6 G etc
5. C Fmb6 F
6. C Emb6 E
7. C Ebmb6 Eb
8. C Dmb6 D
9. C C#mb6 D
10. C Cmb6 C

also to Bbm, Am; Abm, Gm; Fm, Em, Ebm; Dm, C#m, + Cm

USE AT EXAMPLES: LEAST 3 FUNCTIONS IN NEW KEY FOR MAXIMUM SMOOTHNESS
C Cm7 D07 Eb7 Ab
C Cm7 Db7 C#m7 Ab
C Cmb6 Abmb6 B7 Eb

BAROQUE: RESIDUAL FUNCTIONS: C Am7 D7 G C#° F# Bm, ... F# etc
C or Am to Bb via Bb itself or Dm F7 (also to Gm)

bIIImb6 to I

Ex: iiimb6 to i (follow with bIII etc in new key)

1. C Emb6 Cmb6 to Cm
2. C Ebmb6 Bmb6 " Bm
3. C Dmb6 Bbmb6 to Bbm
4. C C#mb6 Amb6
5. C Cmb6 Abmb6
6. C Bbmb6 F#mb6
7. C Amb6 Fmb6
8. C Abmb6 Emb6
9. C Gmb6 Ebmb6
10. C Fmb6 C#mb6

biiimb6 to i

1. C Ebmb6 Cmb6
2. C Dmb6 Bmb6
3. C C#mb6 Bbmb6
4. C Cmb6 Amb6
5. C Bbmb6 Gmb6
6. C Amb6 F#mb6
7. C Abmb6 Fmb6
8. C Gmb6 Emb6
9. C Fmb6 Dmb6
10. C Emb6 C#mb6

vimb6 to i

1. C Amb6 Cmb6
2. C Abmb6 Bmb6
3. C Gmb6 Bbmb6
4. C Fmb6 Abmb6
5. C Emb6 Gmb6
6. C Ebmb6 F#mb6
7. C Dmb6 Fmb6
8. C C#mb6 Emb6
9. C Cmb6 Ebmb6
10. C Bbmb6 C#mb6

bvimb6 to i

1. C Abmb6 Cm(6)
2. C Gmb6 Bm(6)
3. C Fmb6 Amb6
4. C Emb6 G#m(6)
5. C Ebmb6 Gm(6)
6. C Dmb6 Em(6)
7. C C#mb6 Fm(6)
8. C Cmb6 Em(6)
9. C Bbmb6 Dm(6)
10. C Amb6 C#m(6)

Possible amb6 of minkeys with their bVImb

bVII(7) to all majors + minors; also IV(7) to majors. also bVII, bVI, V(6), bII

III7
1. C Eb7 B
2. C D7 Bb
3. C C7 Ab
4. C B7 G
5. C Bb7 Gb
6. C A7 F
7. C Ab7 E
8. C G7 Eb

C bVII7 Ab / C D7 Eb

also diatonic chords
also many II–V's

include iii6 to V as well as ii, iv, IV, V

→ C Cm Eb7 to G, Ab, Db, Bb etc
C C#mb6 C#m E7 to Ab, A, D, B etc
and so forth

Some prog using 7b9 5:–
in C → F G7b9 C; F E7b9 Dm;
F E7b9 E° A7 Dm; F Bb7b9 Bb6 4/3;
F Db7b9 Db7 6/5 Ab 6/4 Db6 E7 Ab 6/4;

F D7b9 C, F B7b9 (B° E7) Am;
F F7b9 Eb; F Ab7b9 Cm(6) D7 Gm

C F#7b9 (F#°) (B7) E or Em
C A7b9 A° D7 Gm; C A7b9 G
C C7b9 C° F7 Bbm
C D#7b9 D#° G#7 C#m E7 A

Am A7b9 Dm F#7b9 C#m G#7 C
F#° B7 E

BEETHOVEN – C F G7b9 0/5 Dm 6/4 G7b9 G7/6 C7 (Eb7) Gb7 Gb7 2 B (in Eb)

II9 bVII9 I / COMPOUNDS; SYM COMPOUNDS ("BOUREE"); MIXED SCALES; MOD SEQUENCES;
SYM MODS (INCLUDE SUBDOM (+ DOM) in 4ths, b3rds, 3rds, b2nds desc, CYCLE PROG; E A13 D13 G13 Gm7 C7 F
POLY CONTR; CHROM CONTR; DIRECT (PHRASE); ROOTACIZATION; BASS LINE ASC + DESC WALKS

IV + after IV
II + conversely V

I+ V+, IV+, II+
1. C G+ or C+ Cm or C
2. C G+ or D+ Bm or B
3. C F+ or D+ Bbm or Bb
4. C F+ or C+ Am or A
5. C C+ or G+ Abm or Ab
6. C G+ or D+ Gm or G
7. C D+ or F+ Gb or F#m
8. C F+ or C+ F, Fm
9. C C+ or G+ E, Em
10. C G+ or D+ Eb Ebm
11. C D+ or F+ Dm, D
12. C F+ or C+ Db, C#m

CONNECT any m to a 7th chord (4/3) whose root is a m3rd up

connect any 7th to other 7ths whose roots are maj or m3rds up or down. (C D7 B7 Ebm

convert any minor into a R°7 by adding leading tone of destination

I I7+ or 7+ III or bVI | I I7+ iiimb6

7b9 part of any R°7 can (also 9+) function as V or II7 of new key

also think in these terms to various keys: ii V7, iv bVII, bvi bII, vii III, i IV, biii bVI, #iv VII, vi II, v I7, bvii bIII, iii VI – either chord may be omitted from these pairs

IN MINOR KEYS, USE ALL ii V's that is on all degrees

use DIATONIC CHORDS as "pullers" in new key
also chrom alterations to old key to create new key

IV iv I a la "VALENTINE INTRO"