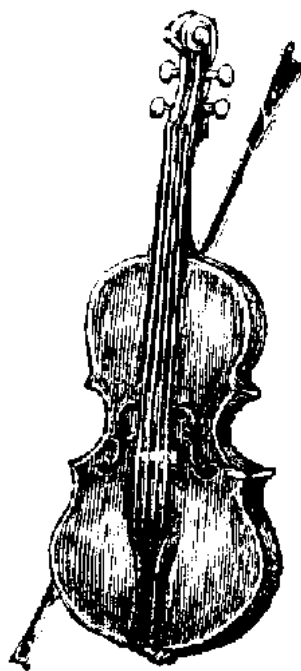




NOTES FOR OTTMAN 2: ADVANCED HARMONY



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INCLUDE THE ANGELO
TALLARACCO AND BOB
JANUARY BIG BANDS,
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1: MODULATION TO CLOSELY RELATED KEYS

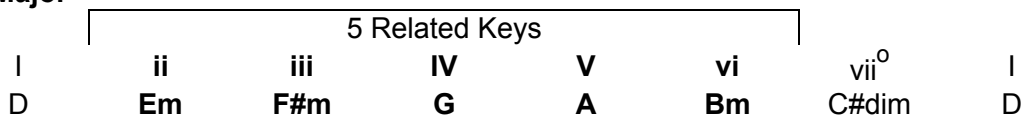
RELATIONSHIP OF KEYS

- In a modulation a key may progress to ANY other key
 - : These are divided into two groups
- Closely related keys
 - : There are 5 closely related keys to any given key
 - A key signature the same as the original key
 - i.e G Major and E Minor
 - One accidental more or less than the original key
 - i.e. D Major → G Major, E Minor, A Major, F# Minor
 - Tonic triad is found as a diatonic major or minor triad in the original key
 - i.e. D Major → E Minor (ii), F# minor (iii), G major (IV) A Major (V), B Minor (vi)
- Remote Keys
 - : To any key NOT a closely related key
 - : Less common than modulations to closely related keys
 - : Most frequent modulations are to closely related keys of
 - Dominant (G → D)
 - Relative Major (A min → C)
 - Relative Minor (C → A min)

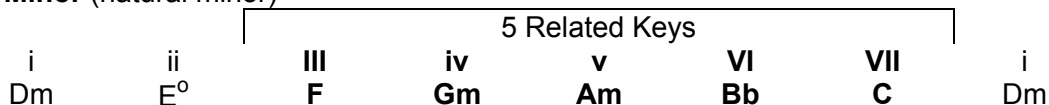
Note:

Study of modulation includes the relationship of keys used in a composition AND the methods of progressing from one key to another

D Major



D Minor (natural minor)



METHODS OF PROGRESSING FROM ONE KEY TO ANOTHER

Common Chord or Pivot Chord

- Most frequent type
- Modulation pivots around a chord which functions in both keys simultaneously
- Pivot chord is located so that the harmonic progression leading up to it are normal progressions in respective keys
- Very often the Pivot chord immediately precedes the 1st V → I or viio → I in new key
 - : May also be 2 – 3 chords ahead of the V → I cadence
- Two or more chords may bear equal analysis as the pivot
 - : In analysis usually only ONE pivot is indicated

	D	G	C#o	D	F#m		Bm
D:	I	IV	viio	I	iii	vi	
				A:	vi	ii	

Can pivot on F#m OR Bm

Pivot Choices

- Each of the diatonic major and minor triads in any given key can be used in modulation to closely related keys

To Modulate from a Major Key with diatonic triads

I	ii	iii	IV	V	vi	vii ^o	I
C	Dm	Em	F	G	Am	B ^o	C
As Pivot	VII in Key of Dm	VI in Key of Em	V in Key of F	IV in Key of G	III in Key of Am		

C Chord appears in following keys diatonically

- Only infrequently is the major dominant or leading tone triad found as a pivot
 - : Exception is in the modulation to the subdominant
 - : Here the pivot (I / V) is usually immediately followed by V7 in the new key

	C	Am	Dm	G	C	C7
C:	I	vi	ii	V	I	
				F:	V	V7

- Watch modulation in normal progressions where both chords can act as pivot

Commonly Used (NORMAL) Chord Progressions

I	May progress to ANY other key*			
ii	ii → V	ii → vii ^o		
iii	iii → IV	iii → vi		
IV	IV → ii	IV → V	IV → vii ^o	IV → I
V	V → vi	V → I		
vi	vi → ii	vi → iii → IV	vi → IV	vi → V
vii^o	vii ^o → I	VII → III in minor		

* Any chord may progress to I when I interrupts a progression listed in this table
i.e. ii → I → V; iii → I → IV; etc

Direct Modulation

- Accomplished without use of a pivot chord
- Two varieties
 - : Where the first chord of a phrase unmistakably functions in a key different from that of the previous phrase

	I	V	I	vi			
D:	D	A	D	Bm			
			Bm:	Bm	F#	G	Em
				i	V	VI	iv

This is the start of a new key – there is no cadence in new key preceding the i chord in Bm

- Where during the course of the phrase and at the point of modulation there can be found one melodic line (any voice) that proceeds by chromatically altered half step (2 notes same letter name different pitch i.e F & F#)

Modulation w/chromatically altered note

Chord progression and labels:

I	6	V	6			
Bb: Bb	Bb/D	F	VI		i	iv
			V		Gm	Cm/Eb
			Gm: D/F#			V
						D

Diagram Conventions:

Common Chord Modulation (Pivot Chord)

	Gm	D7	Gm	Am	Dm
Gm:	i	V7	i =		
		Dm:	vi	v	i

Direct Modulation

	D	A	D	Bm	F#	G
D:	I	V	I	Bm: i	V	VI

With Chromatic Alteration

	Bb	Bb	F	D	Gm	Cm
Bb:	I	I	V	III		
			Gm:	V	i	iv

Melody Harmonization Procedure

- Analyze the Cadence
 - : New Key?
- If the phrase modulates
 - : Locate the pivot point
 - : Look for first V → I in new key
 - : Look immediately ahead for Pivot
- Choose harmony for the remainder of the phrase
 - : Write chord numbers below staff
 - : Write 3 lower voices
 - : Indicate non-harmonic tones below staff
- Several different harmonizations can be possible – look for the best resolution

Available Pivot Chords – Modulating to a Closely Related Key

Major

To:

Supertonic Key	Mediant Key	Subdominant Key	Dominant Key	Submediant Key
C Dm	C Em	C F	C G	I III
I VII	I VI	I V	I V	ii iv
ii i	iii i	ii vi	iii vi	iii v
iii ii	vi iv	IV I	vi ii	IV VI
IV III		vi iii		
vi v				

Minor

To:

Mediant Key	Subdominant Key	Dominant Key	Submediant Key	Subtonic Key
Cm Eb	Cm Fm	Cm Gm	Cm Ab	Em Bb
i vi	i v	i iv	i iii	i ii
III I	III VII	III VI	iv vi	III IV
iv ii	iv i	v i		v vi
v iii	v ii	VII III		
VI IV	VII IV			
	Vi III			

2: BINARY & TERNARY FORMS

THEORY & ANALYSIS

- Formal Structures
 - : Also known as 3 Part & 2 Part Song forms
 - : Structure divided into 2 or 3 parts respectively
- Characteristics
 - : Each part of these forms contains one of smaller forms
 - Period
 - Phrase Group
 - Double Period
- The succession of parts is characterized by a RELATIONSHIP of keys
- Definite contrast in the nature of the thematic material between 1st & 2nd part – with return in the 3rd part of ternary forms

Binary Forms

- Each of two sections of binary form concludes with a strong cadence
 - : Usually perfect
 - : Cadence of the 1st part usually in a closely related key
- Each of the two parts will be any one of smaller forms
 - : Period
 - : Phrase group
 - : Double Period
- At least one and usually both parts are larger than a phrase
- Extensions will often be found
 - : Prelude
 - : Introduction to 1st part
 - : Concluding Section or Codetta after the 2nd part
- One or both parts will be often set apart by repeat signs to emphasize the binary structure
- In analysis CAPITAL letters to designate parts and lower case to designate phrases

Rounded Binary or Incipient Ternary

- Exhibits Characteristics of both 2 part AND 3 part structures
 - : Resembles binary form as to cadences and structures within each part
 - : Difference in the final phrase of period in part 2 (or final period of a double period)
 - RESTATES on the phrases (or periods) of Part 1
 - Exactly
 - In Modification
 - These are characteristic of ternary form
- Analyzed as



Ternary Form

- 2nd part furnishes a contrast to the 1st part
- Differs from incipient ternary form
 - : 2nd & 3rd parts are UNIQUE structures
 - : Cannot be combined to comprise a single structure
- Results in an A – B – A form

Note:

Alternate analysis possible and important where structure does not fit standard definition

A	B	A
Statement	Contrast	Re-statement

- Occurs with considerable frequency in all varieties of music from Folk to Symphonic

A Statement	B Contrast	A Re-statement
- Any one of smaller forms - Usually larger than a phrase - Ends on strong cadence in tonic or closely related key	- Offers Contrast with different material or similar but in related key - Usually ends on a weak cadence (often dominant) - This dominant cadence often serves as a bridge to the return of original idea	- May be a literal return (written or with D.C.) - Or may be strong similarity without being exact repetition
<i>Any part may be found with extensions, codettas, or irregular phrase lengths</i>		

3: LESS COMMON CHORD PROGRESSIONS & PART WRITING PROCEDURES

THEORY AND ANALYSIS

- Regular or Normal progressions are so called because of the frequency of use in the Common Practice Era

Normal Progressions

I	May progress to ANY other key*			
ii	ii → V	ii → vii ^o		
iii	iii → IV	iii → vi		
IV	IV → ii	IV → V	IV → vii ^o	IV → I
V	V → vi	V → I		
vi	vi → ii	vi → iii → IV	vi → IV	vi → V
vii^o	vii ^o → I	VII → III in minor		

* Any chord may progress to I when I interrupts a progression listed in this table
i.e. ii → I → V; iii → I → IV; etc

Valid for both major & minor unless noted otherwise

- Choice of Bass Tone (Inversion)

Bass Note Choices

Root	1 st Inversion	2 nd Inversion
I, iii, IV, V, vi	All Diminished Triads are usually in 1 st inversion	Rarely used except in these special situations:
ii (major & minor) less common → 1 st inversion is most common for ii chord	I, ii, IV, & V are commonly found in 1 st inversion	Cadential ⁶ ₄ Pedal ⁶ ₄
Diminished is rare	iii & vi are less commonly found in 1 st inversion	Passing ⁶ ₄ Arpeggiated ⁶ ₄
	Used when PRECEDING bass note is root of triad	
	V → iii ⁶ I → vi ⁶	

USE OF 2ND INVERSION

Cadential⁶₄ (I⁶₄ → V)

- Found at point of cadence
- Followed by V or V7
- Usually appears on the strong beat of measure
: on 2nd beat in triple meter – allowing final tonic to appear on the strong beat

C:

3		ii ⁶	I ⁶ ₄	V		I	
4		Dm/F	C/G	G		C	

4		I	I	I ⁶ ₄	V		I	
4		C	C	C/G	G		C	

- Most common – the moving voices above bass note proceed downward
- Occasionally upper voices ascend AFTER the Cadential⁶₄
- Normal resolution of cadential⁶₄ is occasionally interrupted by another sonority whose bass note is a step above or below the bass note of the Cadential⁶₄

C:

	I ⁶ ₄	ii ⁶	V	I	
	C/G	Dm/F	G	C	

- 7th chords may be commonly found with any of its members in the bass

Passing⁶₄

- Occurs ordinarily between triad with root in bass and its 1st inversion (or vice versa)
- Most common is the passing V64 found between two positions of the tonic triad

Passing⁶₄

C:

I ⁶	V ⁶ ₄	I
C/E	G/D	C/C



- Passing⁶₄ chords other than those of V & I are uncommon
 - : Passing I64 used in IV⁶ → I⁶₄ → ii⁶₅
 - : Found between two different chords both of which normally progress to the SAME chord

C:

V	V ⁴ ₂	vi ⁶ ₄	vii ^{o6}	I ⁶
G	G/F	Am/E	B ^o /D	C/E

Passing⁶₄

Pedal⁶₄

- Chord preceding the ⁶₄ chord has same bass note
- ⁶₄ usually resolves to the same triad which preceded it
- Name derives from pedal point effect in the bass
- most commonly found in I → IV⁶₄ → I pattern

C:

I	IV ⁶ ₄	I
C/C	F/C	C/C

OR

I ⁶ ₄	V	I
C/G	G/G	C/C

Arpeggiated 6_4

- Preceding the 6_4 is same chord with root or third in bass

C:		
I	I ⁶	I ⁶ ₄
C/C	C/E	C/G

COMMON EXCEPTIONS

Considered Regular

- When triads in 1st inversion are found in succession and the bass is a scale wise line

C min:

i	i ⁶	VII ⁶	VI ⁶	v ⁶	iv ⁶	V
Cmin/C	Cmin/Eb	Bb/D	Ab/C	Gmin/Bb	Fmin/Ab	G/G

C:

I ⁶	ii ⁶ ₅	iii ⁶	IV ⁶	V ⁶ ₅	I
C/E	D-7/F	Emin/G	F/A	G7/B	C/C

- In a harmonic sequence
 - : Identified by a regular recurring pattern of ROOT movement
 - : Any chord progression which results is acceptable

F:

I	IV	vii ^o	iii	vi	ii	V	I	Roots Down by 5 th Up by 4 th
F	Bb	E ^o	Amin	Dmin	Gmin	C	F	
→ by 4 th								

TO

I	IV ⁶	vii ^o	iii ⁶	vi	ii ⁶	V	I	Bass note moves by 6 th
F/F	Bb/D	E ^o /E	Amin/C	Dmin/D	Gmin/Bb	C/c	F	
→ by 6 th		Contains vii ^o → iii which is rarely found else where but acceptable in a sequence			* vii ^o w/root in bass is acceptable due to appearance in the sequence			

-
- : Roots of chord need not be in the bass
 - The bass note pattern chosen for the 1st two chords in the sequence is repeated as melodic line
 - : In a minor key the NATURAL form of the scale is ordinarily used during the sequence
 - : Root movement Down by 5th & Up by 4th is most common sequence
 - Any other Regular Pattern will make a satisfactory sequence
 - : Harmonic sequences with 7th chords and altered chords are far more frequent than only using triads
 - Also frequently used as a means of modulating
 - : When a passage includes a chromatic melodic line the chromatic line (by half steps) usually appears in the bass BUT may be found in any voice
 - Chromatic progressions will contain many altered chords
 - When a Secondary Dominant interrupts a normal progression

Summary: Common Exceptions considered Regular chord progressions

- Triads in 1st inversion are found in succession and the Bass is a scale wise line
- In a harmonic sequence any chord progression which results is acceptable
- Passage includes a chromatic melodic line
- Secondary Dominant interrupts a normal progression

Normal Progressions

I	May progress to ANY other key*			
ii	ii → V	ii → vii ^o		
iii	iii → IV	iii → vi		
IV	IV → ii	IV → V	IV → vii ^o	IV → I
V	V → vi	V → I		
vi	vi → ii	vi → iii → IV	vi → IV	vi → V
vii^o	vii ^o → I	VII → III in minor		

* Any chord may progress to I when I interrupts a progression listed in this table
i.e. ii → I → V; iii → I → IV; etc

Valid for both major & minor unless noted otherwise

Less Common Progressions

I	Between any pair of triads listed in table (except after V or vii ^o)				
ii	ii → iii	ii → IV	ii → vi		
iii	iii → ii	iii → V	iii → vii ^o		
IV	IV → iii	IV → vi			
V	V → ii	V → iii	V → IV	V → vii ^o	
vi	vi → iii	<i>when iii is NOT followed by IV</i>		vi → vii ^o	
vii^o	vii ^o → ii	vii ^o → iii	vii ^o → IV	vii ^o → V	vii ^o → vi

- Less common progressions consist usually of two successive chords
: 3 and 4 may also be found
- Soprano and Bass usually found in Oblique or Contrary motion
- Rarely occurs more than once in a phrase

Note:

No combination of chords
in succession is in itself
unusable

BUT

During the Common
Practice Era (1650 – 1900)
composers

CONSISTANTLY used
certain chord progressions
more frequently than others

LESS COMMON PART WRITING PROCEDURES

- Often musical situations which require special and sometimes unique approaches in accomplishing the composers goal
- These deviations are used to IMPROVE the quality of the 4 Part SOUND as a whole
: Should NOT be used as an 'easy way out' of part writing difficulties

The 3 Most Common Deviations

- Unusual doubling
: Doubling of any triad/7th not listed under normal doubling
- Crossed Voices
: Normal pitch relationship of two voices is reversed
- Alto line descending, Bass line ascending, then cross
- Normal distance between voices
: More than an octave between Soprano/Alto & Alto/Tenor

Common reasons for 3 most common deviations

- To prevent Parallel Octaves & Fifths plus Augmented 2nd
- To prepare a new suspension
- To go from close position to open position
- For a sonority different from normal
- To add interest to the melodic line

APPLICATION

- Composer
 - : Constantly confronted with problem of choosing an effective chord progression
 - In small unit by itself
 - In larger context of phrase
 - : Experimentation with different chord progressions is highly desirable
 - Technically correct
 - Musically interesting
 - Aesthetically pleasing

Note:

This process of experimentation, rejection, and acceptance plays major parts in the efforts of the composer

Music of any composer 'lives or dies' according to public acceptance – or rejections – of his choices

4: APPLICATION OF PART WRITING PROCEDURES TO INSTRUMENTAL MUSIC

THEORY & ANALYSIS

- Procedures learned are in general applicable to any style of harmonic writing within the *historical period*
- Instrumental styles in Common Practice Era are based upon the principles of 4 part writing
- Some writing techniques are unique to instrumental music
- Some techniques are made possible by the unique qualities of the particular instrument

Examples

- Similarities
 - : Chord movement
 - : Doubling
 - : Use of non – harmonic tones and resolutions
- Unique
 - : Arpeggio device making inner line actually function as 2 inner voices
 - : Alberti Bass (Broken Chord Bass Line)
 - : Can be reduced to 4 part writing and then adherence to normal 4 part rules
- Differences
 - : Extended harmonies
 - : In 4 part choral style chord changes are frequent often every beat
 - : In other styles (particularly Instrumental) a single harmony is often of longer duration

-
- Effectiveness (written in conjunction with)
 - : Striking melodic motive or theme
 - : String rhythmic pattern
 - : Change in inversion of chord during a duration of a single harmony
 - : In passage of rapid tempo
 - : Long Melodic line implying a single harmony
 - : Melodic line whose interest lie with use of non – harmonic tones or chromatic scale passage
 - : Introductions, Codettas, & Coda

Sonority Doubling

- Keyboard/Orchestrations are often lines containing Octave doubling to produce a richer sound
- Keyboard doubled in either or both hands
- Instrumental music two (or more different instruments) may play parallel unisons or octaves
 - : Produces a combined sound differing from any of the individual instruments
- This Sonority Doubling is ALWAYS an octave doubling of a *single voice line*
 - : Octave doubling between *different voice lines* is NOT – simply parallel octaves

Arpeggiated Harmonies

- Common device used most often in Piano music
- Helps keep the music in motion when single triad or a series of chords is being used

Pedal Point

- Single pedal tone in Bass
- Double pedal in Bass
 - : Usually with interval of 5th
- Inverted pedal
 - : Pedal in an upper voice
- Interrupted pedal
 - : Pedal tone is repeated at frequent (usually regular) intervals
 - : Creates effect of a sustained pedal



Melody

- In a voice line other than the soprano
- Melody doubled
- In 3^{rds} or 6^{ths}
 - : With Octave + 3rd or 6th (tenth)
- Plus additional sonority doubling

Range & Spacing of Voices

- In 4 part Vocal style range limited to the average range of the human voice
- In instrumental music limited to the range of the particular instrument
- Spacing is determined by the technical limitations of the particular instrument used

NOTE ON COMPOSITIONAL STYLE

- Studied Part writing procedures are those of the Common Practice Era (1650 – 1900)
 - : Similarities in principle of chord succession
 - : Use of non – harmonic tones
 - : Procedures of part writing
 - : Principles of harmonic rhythm
- Difference in Period (Why Bach sounds different from Brahms)
 - : Differing ways individual composers use given harmonic material
 - : Frequency of use of one type of material in a composition – in comparison – with frequency of use of another type
 - : This concept of frequency of use is a major component of differing musical styles from one another
- Realization of Figured Bass (17th & 18th Century)
 - : Keyboard part was written as a single melodic line in the Bass
 - Through Bass with bass line the continuo
 - : Keyboard player had responsibility of improvising an accompaniment from the figured bass line
 - : About 1750 parts were written out by composer
 - The act of improvising the accompaniment was called ‘realizing the bass’
 - No two people realized the part the same way (even modern ‘realized’ editions)

5: DIATONIC SEVENTH CHORDS

THEORY & ANALYSIS

Construction

- Consists of a triad + interval of 7th above root

Diatonic Triads + 7th

Major-minor 7th

G B D	+ F
Major Triad	m7 th Above Root
Gx7	

Minor-minor 7th

G Bb D	+ F
minor Triad	m7 th Above Root
G-7	

Major-Major 7th

G B D	+ F#
Major Triad	M7 th Above Root
GΔ7	

Diminished-minor 7th

G Bb Db	+ F
Diminished Triad	m7 th Above Root
Gø7	

Diminished-Diminished 7th

G Bb Db	+ Fb
Diminished Triad	d7 th Above Root
Go7	

Name is determined by Triad & name of 7th above root

Note on Intervals

- Number
 - : Number of letter names encompassed by interval
 - : C – D – E – F || C → F = 4th
- Qualifiers
 - : Major – minor – Augmented – Diminished – Perfect
 - : Perfect intervals
 - 4th – 5th – Octave – Prime
 - : Major intervals may be Augmented but never become Perfect
 - : Minor intervals may be Diminished but never become Perfect
 - : Perfect intervals may become Diminished or Augmented but never Major or Minor
 - Perfect Prime is a unison
 - Augmented Prime is 1/2 step apart with same spelling (G – G#)

Diatonic 7th Chords

Major

C	D	E	F	G	A	B	C
I	ii	iii	IV	V	vi	vii	I
Δ7	-7	-7	Δ7	x7	-7	ø7	Δ7

Minor: Natural

C	D	E ^b	F	G	A ^b	B ^b	C
i	ii	III	iv	v	VI	VII	I
-7	ø7	Δ7	-7	-7	Δ7	x7	-7

Minor: Harmonic

C	D	E ^b	F	G	A ^b	B	C
i	ii	III	iv	V	VI	vii	i
-7	ø7	+7	-7	x7	Δ7	o7	-7

Minor: Melodic

C	D	E ^b	F	G	A	B	C
i	ii	III	IV	V	vi	vii	i
-7	-7	+7	x7	x7	ø7	o7	-7

Watch the difference between ø7 (minor 7th interval) and o7 (diminished 7th interval)

Alternate Symbols

- The ø7 (Jazz Harmony) and o7 (Traditional Harmony) is a half-diminished or diminished-minor respectfully
- The o7 (Jazz Harmony) and d7 (Traditional Harmony) is a full-diminished or diminished-diminished respectfully
- This occurs only with the addition of a 7th interval to the triad. A triad can only be diminished as the condition of the 7th qualifies the chord as either full or half diminished
- These Ottman Bk 2 notes will use the ø7 for diminished-minor and o7 for diminished-diminished chord
- When in inversion the full diminished chord should retain the d7 symbol
 - : In these notes, the d7 symbol will appear in the figured bass with the ø or o being used in conjunction with the Roman numeral

The image shows two musical staves, one for Half-diminished and one for Full-diminished, each with two examples of chords in root position and first inversion. The Half-diminished section shows a C7(b9) chord in root position (C4, E4, G4, Bb4) and first inversion (Eb4, G4, Bb4, C5). The Full-diminished section shows a C7(b9)(bb) chord in root position (C4, Eb4, Gb4, Bbb4) and first inversion (Eb4, Gb4, Bbb4, C5). Below each staff, the figured bass notation and Roman numerals are provided.

Half-diminished	Full-diminished
7 6 5	d7 6 5
viio Jazz viiø	viio viio

SEVENTH CHORDS IN SEQUENCE

- Used frequently in the harmonic sequence based on a series of roots a 5th apart
- In minor
 - : In extending the sequence use the v-7 when preceding the i-7 to prevent the melodic interval of the Augmented 2nd
 - : The 7th should resolve to third of following chord in this progression
- In 4 voice writing, the 7th chords are usually alternately complete and incomplete in succession
- Root position sequence
 - : The third or root may be doubled in the incomplete chord
 - : The third should NOT be doubled in the V7 at the cadence point
- All 7th chords – singly or in sequence – are commonly found in ANY inversion
 - : In inversion, these chords are invariably complete
- Can be other sequences based on different root movements besides by 5th
- Any 7th chord may alternate with a triad
- Little more leeway in resolving the 7th in instrumental music (delayed, etc.)

The Sequence in Modulation

- The Sequence is a valuable means of modulation
- ANY x7 or –7 can become a secondary dominant chord in the new key
 - : Usually IIx7 or V7 of V
- Also, any other 7th chord in the sequence can be altered to become one the x7 functions
 - : Any triad can be treated in the same manner
- The 7th as a pivot chord can also be diatonic in both keys
 - : iv⁻⁷ of E minor becomes i⁻⁷ of A minor

THE SINGLE DIATONIC SEVENTH CHORD

- ANY diatonic 7th chord may be used individually rather than in a sequence
- Each chord is ordinarily used in the same harmonic progressions as would the triad with the same root
- Cautions
 - : Over use of 7th chords can produce an overly rich texture – ordinarily they are sparingly used
 - : The use of the vi^{o7} is almost exclusively used when the bass line progresses down by 1/2 step through the #6
 - Also occasionally found in the harmonic sequence in PLACE of the VI⁷
 - : At times, a chord structure which appears to a 7th chord may be simply a triad with a non-harmonic tone
 - : Attention must be paid to the introduction AND resolution of the 7th

Part Writing Rule #9

- The 7th of a 7th chord – its note of approach and note of resolution – comprise a THREE note figure similar to certain non-harmonic tone figures
 - Passing Tone, Suspension, Appoggiatura, Upper Neighbor
- The 7th usually resolves DOWNWARD by step

APPLICATION

- The 7th resolves downward by step
- Usually found complete and in inversion almost invariably complete
- 7th chords with roots in the Bass in sequence usually alternate complete – incomplete
 - : The incomplete chord will have either 3rd or 7th in soprano
 - : If soprano is 3rd, root or 3rd may be doubled
 - : If soprano is 7th, ONLY root is doubled
 - : Each incomplete 7th chord in the sequence is found with the SAME doubling as the FIRST incomplete 7th chord
- Watch Parallel 5th
 - : Interval 1-5 AND 3 – 7
- The appoggiatura approach to the 7th – with leap to 7th in same direction as the resolution – makes this solution less desirable
 - : Can be improved by filling the leap with a passing tone

6: INTRODUCTION TO ALTERED CHORDS

BACKGROUND: ALTERED CHORDS

- Chords of the harmonic vocabulary can be divided into two groups
 - : Diatonic
 - The chords natural to the scale
 - These include the melodic form of the minor scale
- ii, IV, vi^o, vii^o – utilizing the raised 6th and 7th scale step
 - : Altered
 - Any chords which display a chromatic alteration of any scale step
 - Other than those of the melodic minor
 - + D F# A in key of C
- Chords are chromatically altered for a number of reason
 - : In general they enlarge the harmonic repertoire of the composer
 - : Give added variety to the harmonic sonority of the composition
 - : Can make possible a more interesting melodic line
 - Providing a sonority for an altered tone in the melody
 - : Can provide a temporary change in mode from major to minor
- What can be altered and to what extent?
 - : In Common Practice Era chords are composed of major & minor 3^{rds}
 - : So chords altered STILL have major & minor 3^{rds}
 - Exception is a few chords with diminished 3rd
 - + F# A C in key of C

- Not all possible chords built on Major & minor 3^{rds} are used regularly
- Fact that a chord is altered does NOT usually cause it to be used differently in progression
 - : Will be preceded and followed by the same chords as would unaltered chord
 - : Unaltered chord followed by altered (or vice versa) can usually be considered a repetition of the same chord

Roman Numeral Identification

- Any chord built in major & minor 3^{rds} with unaltered scale step as root
 - : The Roman numeral will indicate the quality of the triad

C Major

II =	D F# A	D Major Chord
ii^o =	D F Ab	D Diminished Chord
iv =	F Ab C	F Minor Chord

- In analysis
 - : Almost all 7th chords the 7th above the root is either diatonic in the key and indicated by the superscript 7 OR is an altered chord IN RELATION TO THE KEY

Key of C Major

(No #'s / b's)	<————— Diatonic —————>			Altered
The B Full Diminished Chord contains an altered Ab	G7 G B D F	Amin7 A C E G	B Half-Diminished B D F A	B Diminished B D F Ab
Figured Bass	7 V	7 vi	7 vii ^o	b7 vii ^o
	The accommodation of the accidental is retained when in inversion i.e. show 1 st inversion with b7 6 5 in figured bass		Both indicated by vii ^o The b7 in the Figured Bass determines the chord quality	

Key of C Minor

(Bb Eb Ab)	<i>Melodic & Harmonic minor scales are Altered Scales from Key Signature but not considered altered in context – here, the Bø and Bo in minor are not altered chords but the accidental needs to be accommodated</i>			
The B Half-Diminished Chord contains an altered A	Altered	Diatonic	Altered	Altered
	G7 G B D F	Ab Ab C Eb G	B Half-Diminished B D F A	B Diminished B D F Ab
Figured Bass	7 b	7 VI	b7	7

The tones not diatonic to the key must be accounted. The Bass note does not as it appears as intended – the B note while not part of Key is the Bass note in diagram.

Chord Symbol Variations

	G B D F	A C E G	Ab C Eb G	B D F A	B D F Ab
	Major Triad + minor 7 th above root	Minor Triad + minor 7 th above root	Major Triad + Major 7 th above root	Diminished Triad + minor 7 th above root	Diminished Triad + diminished 7 th above root
Ottman Full Name	Major-minor 7 th	minor-minor 7 th	Major-Major 7 th	Diminished- minor 7 th	Diminished- Diminished 7 th
Ottman Roman Numeral	V ⁻⁷	vi ⁻⁷	VI ⁷	vii ^{o7}	vii ^{d7}
Jazz Roman Numeral	Vx7	vi-7	VIΔ7	viiø7	viiø7
Letter Name	G7 Gx7	A min7 A-7	Ab Maj7 AbΔ7	B Half-Dim7 Bø7	B Dim7 Bo7

Chord Symbols are do not provide alterations from the Key Signature BUT the Roman Numeral still provides Function

- Any altered chord built in Major or Minor 3rds with an altered scale step as ROOT
 - : Altered root is indicated by placing a # or b before the chord number
 - : It is a variation from the Key Signature

C Major

bII	Db F Ab
biii	Eb Gb Bb
#vIo	F# A C
#vId7	A# C# E G
bVI-7	Ab C Eb Gb

BORROWED CHORDS

Theory & Analysis

- Chords 'Borrowed' from the minor key contain alterations when used in the major key
 - : These chords contain one (or both) of the lowered 3rd, 6th, & 7th degrees of the minor chord
 - : A borrowed chord may be introduced by its diatonic version – i.e. vi VI / IV iv – or appear independent of it

Temporary Change of Mode

- One or more chords (or a few measures) of music may be found in the mode opposite to that of most of the composition
 - : i.e minor mode briefly in a major mode
- Changed mode can be accomplished in 2 ways
 - : Occasional interpolation of the minor Tonic triad for Major Tonic
 - : By a series of borrowed chords
 - : As few as 2 or 3
 - OR a series long enough to establish aural impression of a definite establishment of a minor key within a major framework

DOUBLING, VOICE LEADING, & PART WRITING PROCEDURE

- Use of altered chords does NOT change part writing procedure
- DO NOT DOUBLE any altered note
- Use Rule 6A if unusual doubling occurs
 - : Write two voice to or from the doubled note 1st using contrary or oblique motion
- Lowered altered tone usually proceeds downward
- Raised altered tone usually proceeds upward
- Altered root of a major triad may be doubled
 - : One root often resolved by leap

7: SECONDARY DOMINANT CHORDS

THEORY & ANALYSIS

- All secondary dominant chords are major triads or major-minor 7th chords (x7)
 - : So named because they often seem to have the effect (at least temporarily) of a dominant chord
 - : Especially true when root of the following chord is a 5th below the root of the secondary dominant
- Any major or minor triad may be given the temporary effect of a Tonic chord by preceding it with a major or x7 chord in a dominant relationship to the temporary tonic
- Secondary leading tone chords produce the same effect
 - : These are diminished triads and ø7 chords built upon the leading tone – a note 1/2 step below the chord of resolution
- Indicated by 'V of'
 - : G: A7 D7 – A7 is V of V
 - : C: A7 D min – A7 is V of ii

Classified into 3 Groups

- Altered Chords that function as a secondary dominant to a DIATONIC triad in a key
 - : Comprise the great majority of secondary dominant usage
 - : Note the I major chord in a minor key is only secondary dominant within a phrase NOT the Picardy Third at cadence
- Unaltered chords that function as a secondary dominant to a DIATONIC triad in a key
 - : These occur ONLY in a minor key
 - : The III, VII, VII7 function as secondary dominants and as their normal function within a minor key
 - The III7 must be altered with a lowered 7th so note that it is not part of this group
 - : The IV triad also has two functions
 - As a substitute for the iv triad (in a minor key) when an ascending melodic line passes through the 6th scale step
 - As a secondary dominant the IV & IV7 function as V of VII
- Altered OR unaltered chords which are secondary dominants to other ALTERED chords
 - : Infrequent to rare
 - : bIII & bVI in major keys are considered borrowed chords when used in succession
 - : bVI as secondary dominant chord to bII (Neapolitan 6th)
 - : If major or minor triad is used with ANY variety of ALTERATION (no matter how unusual) it can be preceded by its secondary dominant

IV as Secondary Dominant

C minor

1	2	3	4	5	6	7	8
C	D	Eb	F	G	Ab	Bb	C
			iv				
			F Ab C	In Natural Minor			
			IV				
			F A C	In Melodic Minor			

So:

F7	Bb Maj	Eb Maj	Ab Maj
(IV7)	VII	III	VI
V7 of VII			

USE OF INDIVIDUAL SECONDARY DOMINANT CHORDS

Normal Resolution

- A single secondary dominant chord with its normal resolution may be found during the course of a phrase or motive
- Consists of
 - : Altered chord that functions as a secondary dominant to a diatonic triad
 - : Diatonic / Borrowed chords
 - Unaltered functioning as a secondary dominant to a diatonic triad in a key
 - Altered or unaltered chords which are secondary dominants to other altered chords
- When a secondary dominant or any other altered or dissonant harmony is built above the tonic note the sonority **LOSES** its function as a **TONIC CHORD**
- Major tonic triad in a minor key (except at final cadence) and the x7 built upon the tonic in both major and minor functions as a secondary dominant to the subdominant harmony (V of IV)

Succession of the Altered and Unaltered form of the chord

- Can be most effective
 - : iiø7 → IIx7

Interruption of a 'normal' progression

- By two successive secondary dominants
 - : I → IV → V becomes I → IV → II7 → V
- Can be extended further
 - : I → IV → VI7 → II7 → V
- Progression of the secondary dominant to its temporary tonic may at times be preceded by a chord which would produce a normal progression in the key of the **TEMPORARY** tonic

same as	G:	A	B	E min
		II	III	vi
			V of vi	
	E min:	A	B	E min
		IV	V	i

The Embellishing Secondary Dominant Chord

- An Embellishing chord is defined as one which appears BETWEEN two chords BOTH of which have the SAME root
- Gives the temporary effect of I V I
- May be found (less commonly) between two chords with the same normal resolution or not the resolution of the secondary dominant
 - : Not – ii III ii (ii – V of vi – ii)
 - : Same – ii VI IV (ii – V of ii – IV)

Other Resolutions of the Secondary Dominant Chord

- Deceptive diatonic triad progression V → vi (commonly used)
- Deceptive secondary dominant progression III → IV (V of vi – IV)

APPLICATION OF SECONDARY DOMINANTS

- Harmonic sequence is greatly enhanced through the additional possibilities for variety when using the Altered Chords: Borrowed & Secondary Dominants
- In V of V chords ALL members function as though the chord of resolution was the tonic of the key
 - : Watch leading tone (3rd of V of V) & 5th of II as it is the raised 6th scale step and functions as a 2nd in chord of resolution
 - : 3rd of V of V may descend IF followed in the same voice by a note of the same letter name with a chromatic alteration
 - i.e. A → Ab

Part Writing Rule 10

- Use of altered chords does NOT change normal part writing procedures
- Do NOT double any altered note

8: SECONDARY LEADING TONE CHORDS – OTHER NON-DOMINANT DIMINISHED 7TH CHORDS

THEORY & ANALYSIS

- Covered to this point with dominant functions
 - : V Major Triad, vii^o triad – normal progression to Tonic
 - : V7, vii^o7 vii^o7 – normal progression to Tonic
- Other chords with secondary dominant functions which progress to chords other than the tonic (dominant function to another chord)
- Diminished triads and sevenths may function in relation to chords other than the tonic just as vii^o functions to Tonic I chord
 - : Called Secondary Leading Tone Chords
 - : Built on note 1/2 step below the root of the following triad
 - Root of this diminished chord acts as a leading tone to the root of the following chord
 - This leading tone root movement represents the dominant relationship
- When altering chord and adding 7th step, some chords will result as EITHER a ø7 or o7 when using only diatonic notes
 - : Those which are naturally ø7 may have 7th lowered to produce a o7
 - : ø7 is infrequent except for viiø7 & #ivø7
 - : It is in full diminished form that the secondary leading tone chord is most often found
- ii^o Triad is diatonic in minor but considered secondary leading tone chord if root resolves UP 1/2 step to III
 - : The same for vi^o resolving up to the VII in minor

Possible Secondary Leading Tone Chords

Major Keys (C)

C#o7	D#o7	Eo7	F#o7	G#o7
C# E G Bb	D# F# A C	E G Bb Db	F# A C Eb	G# B D F
#io7	#iio7	iiio7	#ivo7	#vo7

Construction with chromatic alterations to produce full diminished

Minor Keys (C min)

Do7	Eo7	F#o7	Go7	Ao7
D F Ab Cb	E G Bb Db	F# Ab C Eb	G Bb Db	A C Eb
iiø7	#iiiø7	#ivo7	v ^o	vi ^o

<--Diminished Triads-->

SUMMARY

- Diminished Triads
 - : Major – $\#i^{\circ}$, $\#ii^{\circ}$, iii° , $\#iv^{\circ}$, $\#v^{\circ}$
 - The ii° & iii° is infrequently used
 - : Minor – ii° , $\#iii^{\circ}$, $\#iv^{\circ}$, v° , vi°
 - The $\#iii^{\circ}$, v° , & vi° are infrequently used
- Must make distinction between
 - : Major / Minor key
 - : Diminished Triad, Full Diminished / Half-diminished 7th chord
- $\#iio$ in minor is diatonic BUT considered Secondary Leading Tone chord if root resolves UP 1/2 step
 - : Same for vi°
 - : i.e. $ii^{\circ} \rightarrow III$ & $vi^{\circ} \rightarrow VII$
- Diminished 7th Chords
 - : When adding 7th to diatonic triad result can be o7 or $\emptyset 7$
 - $\emptyset 7$ can be made o7 by lowering the 7th 1/2 step
 - : Leading tone chord most commonly found as a o7 with chromatic alteration
 - : Except for the $vii\emptyset 7$ & $\#iv\emptyset 7$ half-diminished 7th leading tone chords are rare

Terminology Variants

- Often described and symbolized as incomplete forms of x7th chords

i.e. $\#i^{\circ}$ = incomplete VI7 Chord

$\#i^{\circ}$	VI7
C $\#o$	A7
Bb	→ With Bb added to the
G	A7 Chord, it becomes
E	an A7b9 Chord
C $\#$	G
	E
	C $\#$
	A

- Can be applied to all diminished and half-diminished 7th chords which function as secondary leading tone chords
- Symbols can be confusing – use o7 for full diminished and $\emptyset 7$ for half-diminished to keep quality easily discernable

SECONDARY LEADING TONE TRIADS

- Usually found in 1st inversion as they are diminished chords
- Altered tone in an upper voice functions as a leading tone and resolves upward
- Exceptions to upward resolution the same as for Secondary Dominant chords
 - : In arpeggiated or otherwise florid arrangements of the chord the resolution of the altered tone may seem to be unorthodox or may be delayed
 - : A tone chromatically raised may descend to a pitch 1/2 step lower in the next chord provided that both notes of the 1/2 step interval USE the SAME letter name (F → F#)
 - : In a progression of a secondary to its temporary tonic, the spelling of any non-harmonic tone during the progression is determined by the scale of the KEY of the temporary TONIC chord (this is in the melody line also)
- Cross Relation – when each of two chords in succession contain the same letter name and one is chromatically altered
 - : This is usually found in ONE VOICE LINE (Ab → A)
 - : Cross relation (or False Relation) results when this occurs in DIFFERENT VOICES
 - : Avoid Cross relation especially in music of fixed number of voice lines
 - : Can be used in free voicing technique of keyboard style but softened
 - A chord with a ⁴/₂ inversion at point of cross relation (the second note)
 - Use of diminished chord at the same point of cross relation (the second note)
- Secondary Leading Tone triads in a minor key are infrequently used

SECONDARY LEADING TONE 7TH CHORDS

- o7 & ø7 may be freely used in any inversion as well as root in Bass
 - : The 4 tones of the fully diminished 7th equally divide the octave so make it impossible to determine structure aurally (name of chord)
 - : The spelling is MOST important so that leading tone function is clear no matter what inversion the chord is found
- Half-diminished 7th functions exactly the same way as fully diminished 7th
- The o7 in minor functions exactly the same way as in major
 - : No #i^o since would resolve to a ii^o
 - : Instead, the #iii^o7 (theoretical inversion of #io) resolves to a iv
- Common for minor are ii^o and secondary leading tone #iii^o7 & #ivo7
 - : These secondary leading tone chords are written with NO change in spelling when written in inversion
 - : The actual root and 7th of chords resolve in inversion the same way as in root position
 - : The #ivo7 in BOTH major and minor resolve to the Tonic ⁶/₄ Chord

o7 Chord in a Harmonic Sequence

- Can be used effectively in harmonic sequence
- As a succession of o7's to a triad $\frac{6}{4}$ one possibility
- Can also use ø7

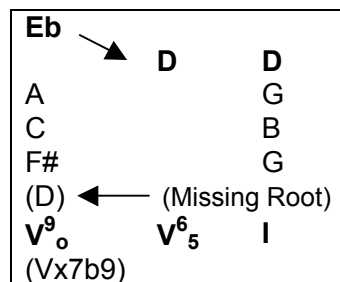
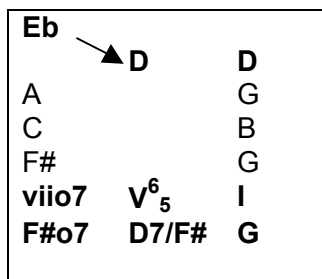
Non Dominant use of o7th Chord

- Two chords – #iio7 and #vio7 in major keys which do not function as Secondary Leading Tone chords
- Here the root resolves up a 1/2 step to the 3rd of the following chord
 - : #iio7 → I⁶ & #vio7 → V⁶ (V⁶₅)
 - : These are enharmonic equivalents of the #ivo7 and #io7 but function DIFFERENTLY from the Secondary Leading Tone Chord

#iio7	D# F# A C
#ivo7	F# A C Eb
#vio7	A# C# E G
#io7	C# E G Bb

Premature Resolution of the 7th

- The 7th of any Secondary Leading Tone Chord is sometimes resolved normally before the resolution of the chord as a whole
 - : Produces a major-minor 7th Chord (x7th) that ordinarily resolves by root movement of a 5th



- No single way to analyze the harmonic movement
 - : Slow passage = two distinct chords
 - : Fast passage = non-harmonic tone

Irregular Resolutions

- These are uncommon – with exceptions
 - : Exceptions
 - : When occurring over a note in a CHROMATIC Bass line
 - As noted before a chromatic bass line will accommodate any series of chords and any resolutions
 - : When the root of a secondary leading tone chord resolves up a 1/2 step to a note other than the root of a chord
 - The chord of resolution might only delay the normal resolution to following chord
 - : When o7 chords are found in succession
 - May be used freely in succession without concern for resolution of altered tones
 - This may produce a normal or irregular series of chords
 - With irregular series, the series effectively obscures any feeling of key center until the resolution of the last chord in the series
 - This last chord is ordinarily a normal resolution

Spelling Variants

- Other than the substitution of #iio7 for #ivo7 before the Tonic $\overset{6}{4}$ other spellings are infrequent
- Composers may (at times) spell a diminished 7th chord contrary to FUNCTION – usually to facilitate reading

The Melodic Augmented Second

- When using o7th chords the melodic interval of the augmented 2nd sometimes appears
 - : When arpeggiated, the interval from 7th up to root is an augmented 2nd
 - : Also appears if chord is repeated in different positions
- Composers use this interval in other than o7 chord
- In harmonic minor form of scale (ascending or descending)
- In appoggiatura figure where 2nd note of the augmented 2nd is the dissonant tone
 - : Though spelled as a 2nd it is large enough to be considered a leap

APPLICATION OF SECONDARY LEADING TONE CHORDS

- Produce a temporary feeling of tonic on the following chord
: Written as though they were $\text{vii}^{\text{o}6} \rightarrow \text{I}$ or $\text{vii}^{\text{o}7}/\text{vii}^{\text{o}7} \rightarrow \text{I}$
- Root of the Secondary Leading Tone Chord will ascend stepwise
- 7th degree in $\text{o}7/\text{o}7$ will descend stepwise
- Any altered tone will proceed as though in the key of the temporary tonic
: Watch the altered tone in diminished chords

Additional Considerations

- The root may descend a 1/2 step when using the same letter name ($\text{A}\# \rightarrow \text{A}$)
- When used in succession, altered tones may progress in ANY direction
- Cross Relation between notes in diminished chord and chord preceding or following chord is acceptable
- Unusual intervals occur melodically at times when using diminished chords – use good melodic principles
- Resolution of the $\# \text{iv}^{\text{o}7}$ requires care to avoid Parallel 5th's
: $\text{F}\#\text{o}7 = \text{F}\# \text{A C E} \rightarrow \text{G major} = \text{G B D G}$

9: AUGMENTED TRIADS & NEAPOLITAN 6TH CHORDS

THEORY & ANALYSIS

Augmented Triads

- Composed of two major 3rd's
- Root to 5th of triad results in an augmented 5th (+5)
- Inversion produces diminished 4th

Augmented Triad in a Key

- In Major key all augmented triads are altered chords
 - : Most common are I+, IV+, & V+
- In minor key only the III+ is regularly encountered
- 5th is leading tone of key
- Usually found in root position with root doubled
 - : Or 1st inversion with 3rd doubled
- In Major key the altered tone is approached and left as a non-harmonic tone figure
 - : Usually as a passing tone (PT) or lower neighbor (LN)
- The duration of altered tone may be so brief as to make questionable an analysis of the sonority as a augmented chord
 - : The approach as a NT is common when the augmented triad is preceded and followed by a different chord
- Resolution of the augmented triad is determined by the necessity of resolving the altered tone
 - : Usual progression from augmented triad results in
 - I+ → IV / I+ → ii⁶
 - IV+ → ii⁶
 - V+ → I
- In minor key the III+ triad is usually approached stepwise and resolved in the same ways it would be in any other circumstances
- Other vertical augmented sonorities are possible but can be analyzed easily and equally as major/minor chords containing a non-harmonic tone

Note:

The importance in analysis lies NOT in the identification of a sonority with an indisputable symbol BUT in the understanding of the FUNCTION of the sound in the MUSICAL CONTEXT

THE NEAPOLITAN 6TH CHORD (bII⁶)

- A Major Triad built on the lowered 2nd degree scale step in major or minor mode is bII
- Most often found in 1st inversion – reason for bII⁶ designation since early in Common Practice Era
- No explanation for term ‘Neapolitan’ but is most commonly known by this name
- Sometimes assigned the symbol N⁶
- Functions exactly as the diatonic ii⁶ in major or the iio6 in minor
- Progresses to the tonic ⁶/₄ or dominant
 - : bII⁶ → V the lowered 2nd scale step moves to 3rd of V Chord

Always includes melodic interval of diminished 3rd

Db B
Ab } G
F }

-
- In Four Part writing the 3rd is usually doubled
 - The 5th as soprano note is VERY rare
 - : Except in arpeggiated line
 - : Resolution to other than I⁶₄ or V Root in Bass
 - Root in Bass Root is usually doubled
 - Less common resolutions possible
 - : i.e. in case of chromatic bass line
 - May be preceded by its secondary dominant in major – the bVI
 - : Previously identified as a borrowed chord (the VI triad in minor) here it function is V of N⁶
 - : When bVI is found as a secondary dominant chord the 7th is altered in relation to the key to produce a minor 7th interval (major-minor 7th chord [x7])
 - Secondary Leading Tone triad or 7th chord to the N⁶ is occasionally encountered
 - : i^o → bII⁶ / io7 → bII⁶
 - Early period of Common Practice the root position N⁶ chord is rare – unless embellished
 - : Fairly frequent in middle & late 19th Century

Doubling – 4 part writing of N⁶ Triad

- 3rd usually doubled
- Use of 5th as soprano note very rare
 - : Except as part of an arpeggiated line
 - : Or resolution to other than I⁶₄ or V
- With Root in Bass, Root is most often doubled

LESS COMMON ALTERED CHORDS

- Any chord – in theory – can be found with any variety of alteration
- These less common alterations appear frequently over a chromatic bass line
 - : There is a FREEDOM of chord succession over a chromatic bass line
 - : Longer chromatic bass lines provide greater opportunity for NON-FUNCTIONAL succession of chords
 - : Chord number analysis with long Chromatic bass line can be meaningless
 - Not really a system of root movements
 - Rather the progression of sonorities is under the control of the chromatic bass line

10: AUGMENTED 6TH CHORDS

THEORY & ANALYSIS

- These chords contain an interval other than a major or minor 3rd
 - : They contain an interval of the diminished 3rd (1/2 step smaller than minor 3rd)
 - : Ordinarily found in inverted form which produces the Augmented 6th interval (inverted diminished 3rd)
- Three chord structures include this interval
 - : Know by a geographical name – sources of the designation are unknown
 - Italian 6th
 - German 6th
 - French 6th

The Italian 6th Chord

- Triad contains a diminished 3rd & a Major 3rd
- To display the augmented 6th interval found in 1st inversion



The German 6th

- A 7th chord
- Consists of a triad identical to the Italian 6th + the interval of a minor third above the 5th of the Triad
- Has a major-minor 7th chord sonority (x7)
- To display the interval of the +6th the chord is found in 1st inversion



The French 6th

- Consists of Maj 3rd / dim 3rd / Maj 3rd intervals
- To display the +6th interval the chord is found in 2nd inversion



Conventional +6th Chords – Minor Keys

- In major & minor keys
- Italian & German 6ths are built on the raised 4th scale step
- French 6th is built upon the 2nd scale step
- When inverted to display the +6th interval the bass note of each is the 6th scale step in natural minor – altered 6th in major

C minor

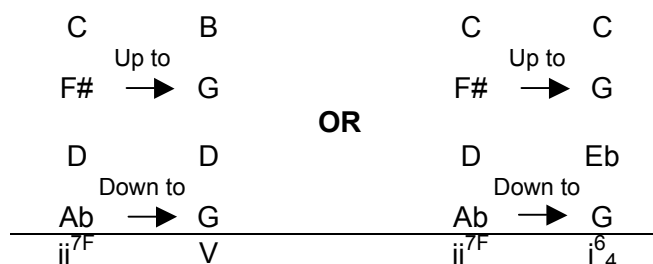
	#ivIt		#ivG		ii7F	
In minor watch the ii ^o chord	C	C	Eb	C	C	C
	Ab	F#	C	F#	Ab	F#
	F#	C	Ab	Eb	F#	D
		Ab	F#	Ab	D	Ab
		#6		#6		#6
				5		4
						3

- Since the triads in these chords are neither major OR minor, chord symbols previously used will not suffice
- Use Roman numeral to indicate scale step with superscript geographical abbreviation
 - : #ivIt / #iv7G / ii7F
 - : Often, the figured bass is the only indication

Italian 6 th	German 6 th	French 6 th
#iv	#iv	ii
#6	#6	#6
	5	4
		3

Resolution of the +6th

- The interval of the +6th usually resolves to an octave
 - : The upper note of the interval progresses up a 1/2 step
 - : The lower note of the interval progresses down a 1/2 step
- Conventional resolution is to V or i⁶₄



- In 4 voice writing the altered tone (#4) is generally approached stepwise in a non-harmonic tone figure (outside of conventional resolution to V / i⁶₄)
 - : Sonority may be ambiguous
 - : Could also be for example a suspension resolution from previous note or Lower neighbor to following note
- These chords are more freely used in instrumental writing

Conventional +6th Chords in major keys

- Appear with the same spelling and roots as minor keys
- But additional tones must be altered
 - : The #4 is consistent
 - : It & Fr 6th require the addition of the b6 scale step
 - : Ger 6th requires the additional b3 scale step to be added

It 6th in C Minor	Key Signature: Bb Eb Ab		
F#	Ab	C	
Altered Tone			

It 6th in C Major	Key Signature: No #'s/b's		
F#	Ab	C	
Altered Tone	Altered Tone		

Ger 6th in C Minor			
F#	Ab	C	Eb
Altered Tone			

Ger 6th in C Major			
F#	Ab	C	Eb
Altered Tone	Altered Tone		Altered Tone

Fr 6th in C Minor			
D	F#	Ab	C
	Altered Tone		

Fr 6th in C Major			
D	F#	Ab	C
	Altered Tone	Altered Tone	

- Resolution is also identical to the minor key formations
 - : To V or i_4^6
 - : Upper & Lower note of +4th interval move up & down respectively

Alternate Spelling of German 6th Chord in Major Key

- The 7th of the $\#iv^{7G}$ is a lowered 3rd scale step
- In resolving to a I_4^6 this note progresses upward
- This chord is sometimes found as
 - : Root = raised 2nd scale step – D#
 - : 3rd = raised 4th scale step – F#
 - : 5th = lowered 6th scale step – Ab
 - : 7th = unaltered Tonic – C
- The result is a $\#ii^{7G}$ spelled on the raised 2nd scale step
 - : With this spelling raised notes resolve upward, lowered note downward
 - : This chord is usually found in 2nd inversion – so that interval of the +6th will be present
 - Sometimes known as a doubly augmented 6 4 3 Chord
 - Ab → D# is a doubly augmented 4th
- Spelled as a x7th Chord

Key of E Major – F# C# D# G# Thinking in
 → Key of E Minor – F#
 Becomes

G	G
E	E
C	C
A#	Bb

A# is #4 in E Minor
 Spelling as Bb is in conformity with x7th

Summary for spelling German 6th Chord in Major Key

Procedure for Spelling German 6th Chord in Major Key

Conventional

1 Think in Parallel Minor Key

2 Build on the #4

3 Put into ⁶/₅ inversion

4 Creates #iv

#6

b5

3

Figured Bass must
accommodate the Major
Key Signature

1 Key of C Major no #'s/b's			→	Key of C Minor Bb Eb Ab		
2	Eb	} -3 rd Δ3	3	F#	4	#iv
	C			Eb		#6
	Ab			C		b5
	F#			Ab		3

Unconventional (#ii^G)

1 Think in Parallel Minor Key

2 Build on the #4

3 Take b3 or SCALE and spell as #2

4 Order with #2 as ROOT

5 Put into ⁴/₃ inversion

6 Creates #ii

#6

#4

3

Figured Bass must
accommodate the Major
Key Signature

1 Key of C Major no #'s/b's			—————▶	Key of C Minor Bb Eb Ab					
2	Eb	3	D#	4	C	5	F#	6	#ii
	C		C		Ab		D#		#6
	Ab		Ab		F#		C		#4
	F#		F#		D#		Ab		3

Augmented 6th Chords with Bass note other than 6th scale step

- Instead of spelling to show the +6th
- The dim 3rd interval often appears in the chord
- Resolves to a unison

Augmented 6th Chords built on other than #iv or #ii

- Normal resolution of +6th interval
- Those built on Dominant and Leading Tone most common

Augmented 6th chord which interval of +6th does NOT resolve to the Octave

- Can be spelled conventionally or unconventionally
- With irregular resolution of +6th interval
- Characteristic of Late 19th Century composers
- When coupled with V7 chord, can create parallel x7 chords (Parallel 5th's unavoidable)

Augmented 7th chords containing the interval of the augmented 6th

- Augmented Triads with interval of 7th added above the root
- A minor 7th interval but in figuration must accommodate the key signature
- Infrequent in us (+I-7 and +V-7 are more common when actually used)
- Voices are arranged to usually show the +6th rather than the dim 3rd
- Differ from +6th chords in that the lower note of the +6th interval is in inner voice



APPLICATION OF THE +6TH CHORD

- The writing of an +6th chord is BASED upon the Approach & Resolution of the interval of the augmented 6th

Approach & Resolution

- Approach by step
 - : Most frequent approach
 - : Each note of the +6th interval is approached by whole step, half step, or same note
 - : Oblique & contrary motion in approaching and leaving the interval is most common
- Approach by leap
 - : The lower note of the interval may be approached by leap from the tonic note
 - : The upper note is approached by leap occasionally
 - : BOTH voices are NOT approached by leap at the same time
- Resolution

: The interval of the +6th resolves outward to the octave

Exceptional Practices

- The interval of the diminished 3rd resolves to the unison
- The progression #iv^G → V always produces perfect parallel 5ths
 - : Early composers usually employed #iv^{It} when progressing to the V
 - : OR some evasive device was employed which quickly created It⁶ of short duration
 - : Substituted the 7th of chord with 5th
 - : Late 19th Century composers allowed parallel 5ths to stand
- In progression #iv^G → V7 BOTH notes of the interval of the +6th resolve down 1/2 step
- If members of the +7th chord are arranged so that interval of +6th is present the chord of resolution will contain a doubled 3rd
 - : 5th resolve up / -7th resolves down
- In 4 note +6th chords (French & German) NO tone is doubled OR omitted
- In the It⁶, the 5th is doubled
 - : The root & 3rd comprise the +6th interval

Summary for Construction +6th Chords

- Think in the Parallel minor
- Build on #4 for Italian & German
- Build on 2nd for and sharp the 4th for French
- It⁶ is a triad others are 7th chords
- Put into 1st inversion to show +6th interval
- Resolution usually to a V or i⁶₄

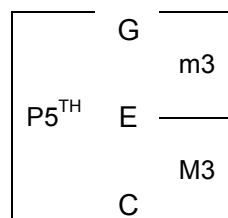
REVIEW – CHORD CONSTRUCTION BY INTERVAL

Figured in Key of C

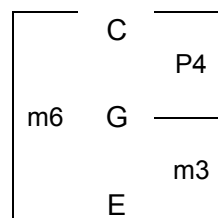
#/b before figured bass indicates departure from Key Signature

Triads

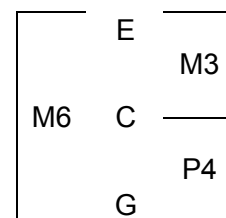
Major



Root Inversion
5
3



1st Inversion
6
3



2nd Inversion
6
4

Minor

	G	M3
P5 TH	Eb	
	C	m3

Root Inversion
5
b3

	C	P4
M6	G	
	Eb	M3

1st Inversion
6
3

	Eb	m3
M6	C	
	G	P4

2nd Inversion
b6
4

Diminished

	Gb	m3
d5 TH	Eb	
	C	m3

Root Inversion
b5
b3

	C	+4
M6	Gb	
	Eb	m3

1st Inversion
6
b3

	Eb	m3
M6	C	
	Gb	+4

2nd Inversion
b6
4

Augmented

	G#	M3
+5 TH	E	
	C	M3

Root Inversion
#5
3

	C	d4
m6	G#	
	E	M3

1st Inversion
6
#3

	E	M3
m6	C	
	G#	d4

2nd Inversion
6
4

7th Chords

Major

Root Inversion	1 st Inversion	2 nd Inversion	3 rd Inversion
7	6	6	6
5	5	4	4
3	3	3	2

Dominant

Root Inversion	1 st Inversion	2 nd Inversion	3 rd Inversion
b7	6	6	6
5	b5	4	4
3	3	b3	2

Minor

Root Inversion	1 st Inversion	2 nd Inversion	3 rd Inversion
b7	6	b6	6
5	5	4	b4
b3	3	b3	2

Half-diminished

		Bb	$\Delta 3$			C	$\Delta 2$			Eb	-3			Gb	-3
		Gb	-3			Bb	$\Delta 3$			C	$\Delta 2$			Eb	-3
		Eb	-3			Gb	$\Delta 3$			Bb	$\Delta 3$			C	$\Delta 2$
		C	-3			Eb	$\Delta 3$			Gb				Bb	
Root Inversion		b7		1 st Inversion		6		2 nd Inversion		b6		3 rd Inversion		b6	
		b5				b5				4				b4	
		b3				3				b3				2	

Full diminished

		Bbb	-3			C	+2			Eb	-3			Gb	-3
		Gb	-3			Bbb	-3			C	+2			Eb	-3
		Eb	-3			Gb	Δ3			Bbb	-3			C	-3
		C	-3			Eb				Gb				Bbb	+2
Root Inversion				1 st Inversion				2 nd Inversion				3 rd Inversion			
		bb7				6				b6				b6	
		b5				bb5				4				b4	
		b3				b3				bb3				2	

Augmented 6th

Italian	German	French
C	Eb	C
Ab	C	Ab
F#	Ab	F#
	F#	D
F#	F#	F#
C	Eb	D
Ab	C	C
	Ab	Ab
#iv ^{It}	#iv ^G	ii ^{Fr}
#6	#6	#6
	5	4
		3

11: CHORDS OF THE 9TH, 11TH, & 13TH

THEORY & ANALYSIS

- The principle of chord construction by the addition of 3rd's can be continued to include the 9th, 11th, & 13th
 - : 9th = 7th chord + 3rd
 - C E G Bb + D
 - : 11th = 9th chord + 3rd
 - C E G Bb D + F
 - : 13th = 11th chord + 3rd
 - C E G Bb D F + A

Note:

Chords of greater complexity are not possible as 15th is simply repetition of the root note

CHORDS OF THE 9TH

- V9 & v9 are most common
- Figured Bass
 - : Construction of major or minor triad + A minor 7th above the root
 - : Roman numeral will indicate quality
 - V = V major
 - v = v minor
 - : The minor 7th above root is implied
 - : Superscript 9 is 9th above root diatonic to key
 - : Superscript -9 is 9th above root chromatically lowered 1/2 step
- Often difficult to ascertain whether a sonority containing a 9th above the root is a 9th chord or a simpler chord with a non-harmonic tone
 - : A sonority consisting of only a triad + a 9th will NOT be considered a 9th chord
 - : Best analyzed as a non-harmonic tone
 - : Sonority with both 9th AND 7th present can be considered a 9th chord with more assurance
- In 4 Part writing
 - : Since 9th chord is a 5 note chord one note is omitted
 - Usually the 5th
 - Less often the 3rd
- In Instrumental writing the chord is usually complete

Resolution of dissonance (9th & 7th tones)

- The 9th chord contains two dissonance – 9th & 7th
 - : They BOTH resolve down
 - : Introduced as a non-harmonic tone
 - : Same as done with 7th previously
 - : Chord + non-harmonic tone
- Complete 9th in which the 9th resolves simultaneously with the chord change
 - : Can be specifically analyzed as a true harmonic sonority
 - : Not most frequent appearance
 - : Approaches are:
 - Upper Neighbor
 - Suspension
 - Appoggiatura
 - Passing Tone

Upper Neighbor

V 9th V

V ii V

Suspension

9th Resolution

9 4 3 ii

IV ii

Appoggiatura

9th

IV 9 V

(V of V)

Passing Tone

9th

I 9 IV

(V of IV)

- Complete 9th chord in which the ninth resolves before a change of chord
 - : This form is most frequently found
 - : Identical to that of leading tone chords
 - : When 9th resolves to an octave a 7th chord remains
 - : This resolution is common in all 9th chords

Ab	→	G
ii ^o 7	V-9	V7

Ab is b5 of ii^o7, b9 of G7
and resolve to root of G7

-
- Complete 9th chord in which the 7th & 9th are arpeggiated
 - : The 9th may resolve by a leap to the 7th
 - : Or by a passing tone to the 7th
 - : Often preceded by a leap FROM the 7th
 - Complete 9th chord with irregular resolution of the 9th
 - : Normal resolution is by step
 - : Here it occurs some other way
 - Up by step
 - Ascending accented passing tone

9th Chords in Sequence

- When found in Sequence, 9th & 7th chords are usually found alternately
- Allows the use of 9th chords not ordinarily found

CHORDS OF THE 11TH & 13TH

- Chords of the 11th containing a 9th & chords of the 13th containing an additional 9th or 11th are comparatively rare
 - : Most vertical sonorities with the 11th or 13th often prove to be simple triad or 7th chord with a non-harmonic tone above
- A sonority can more accurately be called an 11th when the 9th is also present
 - : The 13th should also display either the 11th or the 9th
- The 11th & 13th will almost invariably resolve while the root of the chord is being HELD
 - : So at time of root change only a more simple sonority (7th or 9th) remains
 - : Difficult to assume the existence of 11th or 13th when simpler analysis of 7th or 9th + dissonance is available

Properties of 11th & 13th

11th Chord

- In the 11th chord the 3rd is omitted as this is note of resolution
- In the 11th chord the interval between 9th & 11th can be 3rd OR 10th
 - : When interval is 3rd, both the 11th & 9th resolve down by step to a 7th chord
 - : When interval is 10th, just the 11th may resolve down by step – leaving a 9th chord

13th Chord

- In the 13th chord, either the 9th or 9th & 7th together are present
- Simultaneous resolution of 13th & 11th produces a simple 7th chord
- Resolution of 13th only leaves a 9th chord
- Where 7th, 9th, 11th, & 13th sound simultaneously, the 11th & 13th resolve in succession leaving a 9th chord

APPLICATION – 9TH CHORD

Resolution & Introduction

- Usually introduced and resolved in the manner of a non-harmonic tone
- Resolves either by step or skip to 7th of chord
- Introduced in one of 5 ways
 - : As passing tone figure
 - : As a suspension
 - : As a neighboring tone
 - : As an appoggiatura – with a skip from below
 - : Indeterminate introduction
 - 9th chord is preceded by a rest
 - May or may not be related to final chord of previous measure

Vertical Structure

- 9th most often found in soprano voice
 - : Particularly true in 9th chords other than the V9
- Found at interval of at LEAST a 9th rather than 2nd above root
- When 9th is not the highest note, the 3rd of the chord is almost invariably lower than the 9th
- Note other than ROOT in BASS is uncommon

Note:

9th chord is used only infrequently in 4 voice chorale style

It is found principally in instrumental music

12: ADVANCED MODULATION

THEORY & ANALYSIS

Two Parts

- Modulation to closely related keys
- Modulation to remote keys
 - : Using 7th chords
 - : Using altered chords
 - : Altered triads in Major & Minor keys
 - : Altered 7th chords in Major & Minor keys
 - : Borrowed chords
 - : Secondary Dominant chords
 - : Non-dominant o7th chords
 - : Augmented triads
 - : Neapolitan 6th chord
 - : Augmented 6th Chords – Italian, German, & French

Common Chord Modulation

Diminished 7th Chord as a Pivot Chord

- Used extensively in this period as a pivot chord in modulation
- Can be used by fact that any single diminished chord in a key can be used as a pivot in modulating to ANY OTHER POSSIBLE Major or Minor key
- Results in Secondary Leading Tone 7th chords – root of diminished chord is leading tone for following chord 1/2 step higher
 - : Root & inversions all have the SAME SOUND
 - : Inversions can be respelled with lowest note becoming the root
 - : Combined with enharmonic spelling to create pivot chord
 - : Can be constructed into a chart to provide a table of modulation

vii^o7 (vii^{d7}) in Key of C

Root	1 st Inversion			2 nd Inversion			3 rd Inversion	
<i>Ab</i>	<i>B</i>	<i>B</i>	<i>Cb</i>	<i>D</i>	<i>Ebb</i>	<i>D</i>	<i>F</i>	<i>F</i>
<i>F</i>	<i>Ab</i>	<i>G#</i>	<i>Ab</i>	<i>B</i>	<i>Cb</i>	<i>B</i>	<i>D</i>	<i>D</i>
<i>D</i>	<i>F</i>	<i>E#</i>	<i>F</i>	<i>Ab</i>	<i>Ab</i>	<i>G#</i>	<i>B</i>	<i>B</i>
<i>B</i>	<i>D</i>	<i>Cx</i>	<i>D</i>	<i>F</i>	<i>F</i>	<i>E#</i>	<i>Ab</i>	<i>G#</i>
	Respelled				Respelled			Respelled

i.e. – viio7 chord in C as pivot in modulation to Key of F

I	ii	iii	IV	V	vi	vii	I
F	G	A	Bb	C	D	E	F
			Becomes →	#ivø7	#ivo7		
			Bb	B	B	viiø7 chord in C	
			D	D	D		
			F	F	F		
			A	A	Ab		

Leading Tone Chord #ivo7 (root B) progressing to C chord as V in Key of F

Expanding this Leading tone chord as pivot you can start to chart modulation possibilities

viio7 (vii^{d7}) in Key of C as Pivot

1. Root Position: BDFAb with Same Spelling

#io7 in F Major

F	G	A	Bb	C	D	E	F
			BDFAb #io7 in F				
			Normally progresses to V chord in F				
			#ivo7 → I ⁶ ₄ → V				

#io7 in Bb Major

Bb	C	D	Eb	F	G	A	Bb
			BDFAb #io7 in Bb				
			Normally progresses to ii Chord in Bb				
			#io7 → ii V I				

#ivo7 in F Minor

F	G	Ab	Bb	C	D	Eb	F
			BDFAb #ivo7 in F Minor				
			Normally progresses to V chord in F Minor				
			#ivo7 → V				
			#ivo7 → i ⁶ ₄ → V				

#iio7 in G Minor

G	A	Bb	C	D	Eb	F	G
			BDFAb #iio7 in G Minor				
			Normally progresses to iv				
			#iio7 → iv → #ivo7 → i ⁶ ₄ → V				

1st Inversion: D^FAbB spelled as D^FAbCb

vii^o7 in E^b Major

E^b F G A^b B^b C **D** E^b
 D^FAbCb vii^o7 in E^b
 Normally progresses to I
 vii^o7 → I

#ivo7 in A^b Major

A^b B^b C **D^b** E^b F G A^b
 D^FAbCb #ivo7 in A^b Major
 Normally progresses to V
 #ivo7 → V
 #ivo7 → I⁶₄ → V

#io7 In D^b Major

D^b E^b F G^b A^b B^b C D^b
 D^FAbCb #io7 in D^b
 Normally progresses to ii Chord
 #io7 → ii → V → I

vii^o7 in E^b Minor

E^b F G^b A^b B^b C^b **D^b** E^b
 D^FAbCb vii^o7 in E^b Minor
 Normally progresses to i
 vii^o7 → i

#ivo7 in A^b Minor

A^b B^b C^b **D^b** E^b F G A^b
 D^FAbCb #ivo7 in A^b minor
 Normally progresses to V
 #ivo7 → V
 #ivo7 → i⁶₄ → V

#iii^o7 in B^b Minor

B^b C **D^b** E^b F G^b A^b B^b
 D^FAbCb #iii^o7 in B^b Minor
 Normally progresses to iv
 #iii^o7 → iv → #ivo7 → i⁶₄ → V

vii^o7 in D[#] Minor

(Natural Minor)
 D[#] E[#] F[#] G[#] A[#] B **C[#]** D[#]
 C^xE[#]G[#]B vii^o7 in D[#] Minor
 Normally progresses to i
 vii^o7 → i

To Create a Chart for the o7 as a Pivot Chord

- Identify o7 chords in Major & Minor key
 - : C Major = viio7
 - : C Minor = iio7, vio7, & viio7
- Choose Diminished Chord and respell
 - : Use all possible inversions – root, 1st, 2nd, & 3rd
 - : Use o7 chords diatonic to Major & Minor key PLUS Secondary Leading Tone chord possibilities
 - : Whatever note is root, the interval construction of the o7 chord will be the same – m3, m3, & m3

Modulation – C Major → Eb Major using o7 as pivot chord

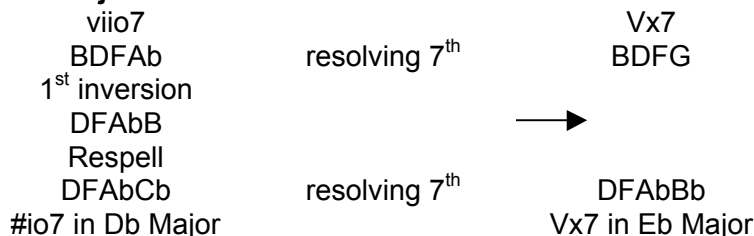
- 1] in C viio7 = BDFA 2] Make o7 = BDFAb Full viio7 (viid7)
- 3] Put into 1st inversion = DFAbB 4] Becomes viio7 in Eb & progresses to I

vii chord in a Major key is ø7 quality BUT can be altered to o7 quality
 Keep in mind these are leading tone movements to new key
 These are Secondary Leading Tone Chords

Interval distance is the same – m3, m3, & m3 Spelling is different
 By Considering each inversion a new root, chord possibilities for modulation are many

- The modulation in which the pivot chord is spelled ENHARMONICALLY is often called an enharmonic modulation
- The pivot chord is commonly & most often spelled ONLY as it FUNCTIONS in the NEW key
 - : It is sometimes spelled differently only to simplify for reading & performance
 - : The o7 pivot can be easiest spelled in root position in the new key
 - : If spelled in inversion IN NEW key each note resolves by step or remains stationary
 - : Judicious use of non-harmonic tones can correct awkward melodic movement
- The 7th of a o7th often resolves before the resolution of the chord as a whole
 - : Results in a x7th chord
 - : This can be exploited to produce x7th chords useful in modulation as x7th or Secondary x7th in new key

In C Major



German 6th Chord as a Pivot Chord

- Sound of chord in 1st inversion is enharmonic with that of a major-minor seventh (x7th)
 - : Because of this, a convenient chord for use as a pivot to reach a remote key quickly
 - : Can function as any x7th chord OR any chord can equal German 6th
 - : Limited to $\#iv^G = Vx7$ in new key (with few exceptions)

In C Major

1] Create German 6 th	CDEFGABC → CDEbFGAbBbC (parallel Minor) Build on #4 Scale Step
2] Respell	F#AbCEb respell German 6 th GbAbCEb
3] Result	x7 th chord in Db → V ⁴ ₂ (Ab7/Gb)

Other Modulations by Pivot Chord

- ANY chord altered or unaltered may function as a pivot chord
 - : May be altered or diatonic in EITHER key
 - : May be altered in BOTH keys
 - : May display enharmonic spelling

Modulation by Change of Mode

Borrowed Chords

- The key signature of a Major Key & its parallel minor differ by 3 accidentals
 - : Use of chords from the opposite mode will often conveniently & dramatically expedite a modulation from a major key to one of its remote keys
 - : Most of such modulations are made from a major key to a minor key
 - Use of a minor tonic triad in a major key is most useful vehicle for this type of modulation
 - Chord other than tonic of original key occasionally serves this purpose
 - + bVI of Bb Major → VI of Bb Minor (Gb → Gb = I in Gb Major)

In F Major

- 1] Change F Major tonic to Minor (I → i)
- 2] Creates a F minor tonic triad
- 3] Changes key signature from Bb to Bb, Eb, Ab, Db
- 4] Makes modulating to a key of 5b's nothing more than modulation to a closely related key

F Major	F Minor	Db Major
Bb	BbEbAbDb	BbEbAbDbGb
I	i in F Minor → iii in Db Major	

Direct Modulation

- Modulation to a remote key may be accomplished WITHOUT the benefit of a pivot chord
 - : As a new Phrase
 - : By Chromatic 1/2 step in one of the MELODIC lines
- Very often keys involved in a direct modulation are connected by a single PITCH common to BOTH keys
 - : Called a Pivot Pitch
 - : Can be used to connect any two keys but most often commonly between remote keys
 - : Can be spelled the same in both keys OR enharmonically

Modulation by Sequence

- A new key may be reached as the result of a sequence – either harmonic or formal
 - : i.e. Sequence of $x7^{\text{th}}$ chords as secondary dominants continued till desired key
 - : Produced by last secondary dominant chord becoming $Vx7$ in new key

Passing/False Modulations

- Passing Modulation
 - : In reaching a desired key from any given key, a modulation to an intermediate key OR keys before arriving at cadence in new key
- False Modulation
 - : When a phrase begins & ends in the same key – AND a modulation occurs within the phrase
- Characteristics of Passing & False Modulations
 - : Usually very short
 - : Aural impression of new tonic can be
 - + Definitely established
 - + Merely suggested