Notes:

Contemporary Harmony

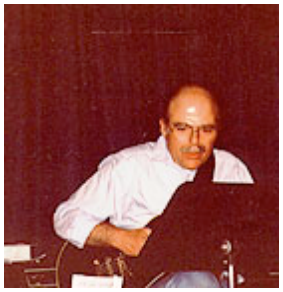
Romantic through the Twelve Tone Row

Ludmila Ulehla

Music is complex and ever changing

Combinations of sound that are undesirable in one period become an idiomatic expression of another, spearheaded by the writings of a new group of composers

Michael Morangelli
Composer



Has performed extensively both in New York City and Boston. His credits include the Angelo Tallaracco and Bob January Big Bands, Fire & Ice Jazz Octet, and the Blue Rain Lounge Quartet. He was also staff guitarist for South Park Recording Studio.

In Boston 1985 - 2004, he has played with the George Pearson Group (local headliners at the Boston Jazz Society Jazz Festival in 1990), Urban Ambience, and was founder and leader of the Whats New Septet (1995). His Jazz compositions have been recorded by Comraderie Tapes and included in the Missing Links Tape Sampler.

Composing for film since 1996, he has provided scores for Board Stories, Rules of Order, the independent production American Lullaby, the CityScape production Wastebasket, and Il Moccio - an April 2004 New York Film and Video entry. He has also provided music, efx, and sound design for Eric Mauro and his work has appeared on theBitScreen.com, the Seoul Animation Festival, Aspen Shortfest, and the ExCentris New Media Festival in Montreal.

Film

Worked with high quality samples. Delivery on DAT accompanied by the Audio Data files and either the sequence or Finale Lead Sheet Conductors score if required.

All material is laid up to QuickTime for review with spotting and cue notes if required.

Web

Flash audio materials are optimized for file size and laid up in Flash suitable for web display.
Both the .fla file and the .swf file are accompanied by all sound and music samples in AIFF format (with Sound Designer II if required).

All Flash animations can be converted to QuickTime should that format be required.

Services

Original Music Composition
Music Spotting

Music/Sound Design
Efx/Foley/VoiceOvers
for QuickTime/Flash Animation

Michael Morangelli
732.674.3579
info@thereelscore.com
The Reel Score
337-B Canterbury Court, Lakewood, NJ 08701
www.thereelscore.com

1 MUSICAL INFLUENCES PRESENT IN 1900

I RHYTHMIC AND MELODIC STRUCTURE

A. BACKGROUND

1 Contemporary harmony

- Has gradually evolved from the musical expansion of the late 19th Century
- Chromaticism
  - : Influenced melody
  - : Expanded the scope of tonal modulation
  - : Stretched harmonic boundaries to the breaking point (Le Sacre du Printemps, Stravinsky)

2 Writing today is not divorced from the 19th Century

- Carries on the growth which started from the beginning of musical time
- Is the cumulative result of varying influences
  - : Individual characteristics of a composer become absorbed by the next generation
  - : Each step is accompanied by a renewal of some traditional forces
  - : Romanticism provided composers of early 20th Century with a knowledge of chordal growth using this in new creative ways

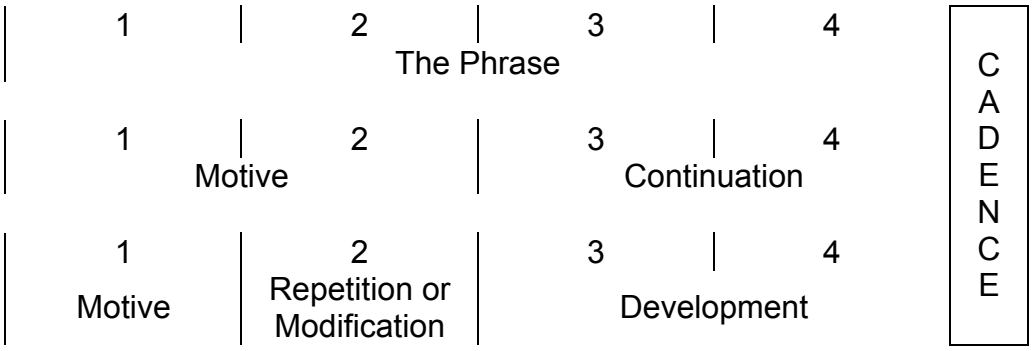
B. DECLINE OF SYMMETRICAL MOTIVES

1 The New Attitude

- New rhythmic design in melodies of Brahms & Wagner
  - : Today's concept of elastic & irregular rhythmic lengths
  - : The subtle departure from powerful symmetrical shapes is found in their works
  - : 16th Century had the same irregular interest – the Classical period intervened
- Late Romanticists is the way to approach this gradual breakdown

2 Classical Approach

- Classical design is felt in rhythmic units divided by 2
- Most phrases are 4 bars in length



Listener is guided by the recognition of a motive and its continuation toward the cadential pause

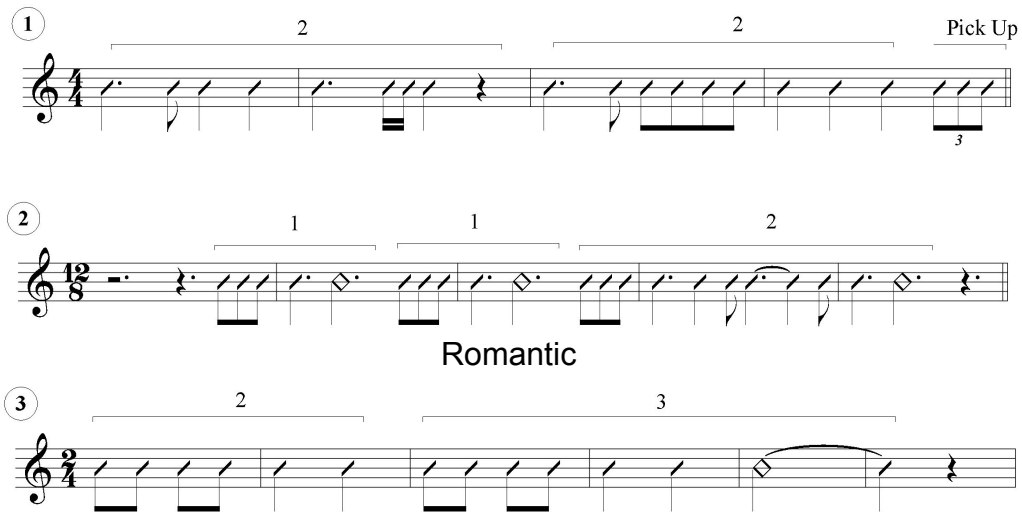
- Neither phrase nor motive length is confined to a setting of one or two bars
  - : Tempo can prompt phrase setting of 8 or more measures
  - : Symmetrical motivic divisions within the 4 bar phrase can be expanded or reduced in *equal* ratio
  - : Extensions to the Classical phrase are generally of 2 bar lengths

3 Romantic Approach

Figure: Is the smallest succession of tones grouped rhythmically together and form a nucleus for further expansion

- Less symmetry in the motive design
- Unusual phrase lengths
  - : Motives expand to 3 bar lengths
  - : Motives contract to a shorter division than expected
  - : Frequently found to an extension of a rhythmic figure with the motive
  - : An active harmonic progression
  - : Melodic expansion caused by sequential figures
  - : Rhythmic expansion

Classical



Romantic

NB:

Melodic Motive is a short musical idea, melodic, harmonic, rhythmic, or any combination of these three. A motif may be of any size, and is most commonly regarded as the shortest subdivision of a theme or phrase that still maintains its identity as an idea

The rhythmic motive may be defined by analogy with the melodic type: a short, characteristic sequence of accented and unaccented or short and long articulations, sometimes including rests

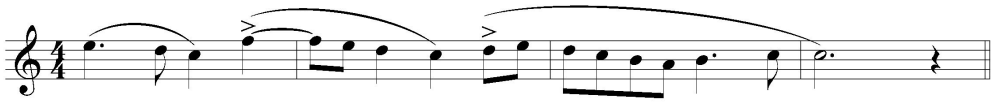
The Phrase is the smallest unit of form, a group of notes leading to a cadence (half or full) may contain two or more motives separated by a pause within the phrase

C. METER CHANGES

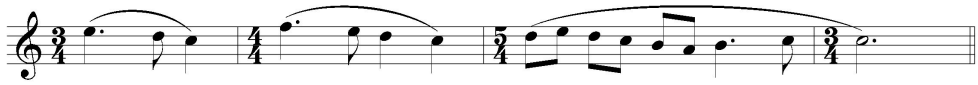
1 The Flexible Bar Line

- Found beginnings in Brahms
- Two ways of notating if motive no longer fits the rhythmic stress if the predominate meter of the composition
  - : Meter retained providing the new irregular motive length is clearly phrased to negate the normal stress given to the unwanted down beat accent of the meter (more appropriate if change is short – within a few measures)
  - : Measures may be lengthened or shortened by metric change to accommodate the differing pulse stresses (if irregular groupings persist, simpler to change the meter as necessary)

- Considerations
  - : Syncopation



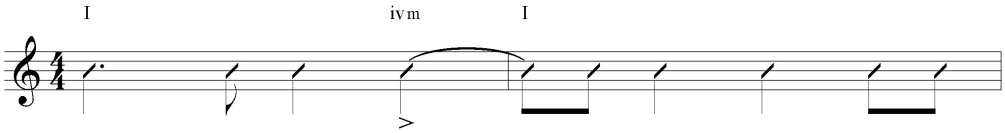
Syncopated – accented weaker beats while the pulse stress of meter remains



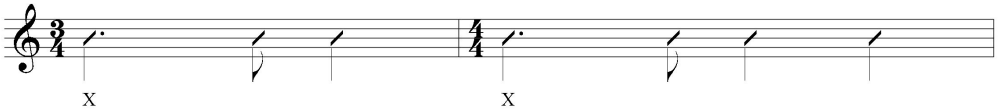
Not syncopated – as the pulse stress of each meter change is respected

Syncopation is the accenting of weaker beats in the measure while not eliminating the pulse stress of the meter

: Harmonic Background



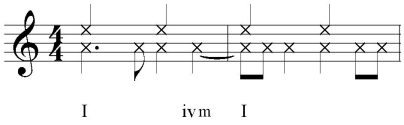
Syncopation is emphasized by accented beat 4 measure 1 and return to Tonic chord on beat 1 measure 2 Normal pulse of meter is retained



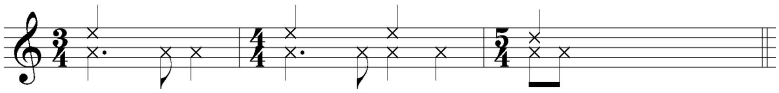
No Syncopation - here a selected dissonance placed at [X] is set to strengthen all accented downbeats No accents are needed as the stress pulse of the involved meters is followed – shows convincing need to make meter change

This accented downbeat with selected dissonance can be so strong it can be used under one inclusive meter without causing any syncopation

Brahms' Codetta to Capriccio Op. 76 No. 5 accommodates this a 3rd way – notating the irregular feeling by baring eight note groups across the bar line



Syncopated as the 4/4 pulse is retained



Not syncopated as pulse changes with mete change

: Harmonic Rhythm

- Frequently responsible for changing meters
- Downbeat stresses can be controlled by spacing active harmonies within the measure
- Select more stable triads to supply the firmness demanded of the first beat of the measure
- The rhythm formed by the contrasting selection of sounds maybe irregular or symmetrical – providing that some unity of motive and design is also present
- The stronger and weaker stress inherent in the harmonic movement dictate the placement of bar lines

Melody may provide the initial source for the metric change – yet unless the harmonies are suitably combined the result may sound right but look like an incorrectly notated score

2 Removal of the Bar line

- Some composers are experimenting with removing the bar line entirely

: For solo performer it may present no obstacle
: For ensemble playing the absence of clarity as to stress points within the phrase make it impractical

NB:

Musical pulse is affected by the correlated melodic and harmonic design which provides a changing degree of stress to the pulsating beats

The pulse of a composition depends upon other forces which do not disappear with the omission of bar lines

II INTERVALLIC UNITY

A. BACKGROUND

1 Brahms

- Gave increasing importance to the concept of motivic development
  - : Through an adherence to the specific intervals that make up a motive
  - : Results in an intervallic relationship as a means of unity and expansion for a composition
- Classic & Romantic period relied on rhythmic pulsation or momentum within which the motives of the theme were developed
  - : Rhythmic coherence was the backbone of the developmental material
  - : The natural intervals of the motive changed but preserving most of the original rhythm for unifying recognition

2 Today intervals may completely bind the composition (12 Tone Serial)

- Rhythms are frequently disjointed abandoning the traditional movement of basic pulsation
- Thematic unity is made entirely of intervallic relationships
- Brahms retained a rhythmic continuity but his preoccupation with an intervallic control is most noticeable

B. TECHNIQUES

1 Rhythmic alteration

- Augmentation
  - : The rhythmic *lengthening* applied to specific tones of a motive
  - : Quarter note ←→ Half note

Augmentation & Diminution can be applied to a single tone or entire phrase

- Diminution
  - : The rhythmic *shortening* of note values of specific tones
  - : Half note ←→ Quarter note
- Expansion or Extension
  - : A free *increase* of motivic material
  - : Does not directly involve any specific rhythm
  - : Motive, phrase, cadence, or a chord may be extended by any melodic means convenient
- Contraction or Fragmentation
  - : A *reduction* of the size of the motive or phrase
  - : Something must be omitted for it to shrink
  - : No specific rhythm is involved

2 Melodic Alterations

Terms are all techniques of the 12 Tone Serialism yet appear in Brahms – Brahms is not the 'discoverer' but his use constitutes a more deliberate purpose

- Sequential Extension
  - : Retains a motive's intervallic shape but *transplanted* entire unit to another pitch
  - : Slight modifications of rhythm or interval may not impair the basic pattern
- Inversion
  - : The melodic contour *reverses* direction
  - : Almost a mirror image of this contour
- Retrograde
  - : Motive unfolds its relationship to the 1st idea by moving *backward* to the original motive
  - : Uses a right → left movement if original uses left → right
  - : Noticed only occasionally in music before the 12 tone idiom
    - Approximates the planning of a Serial composition
    - But Brahms used this design only where his inspiration suggested a particular design
    - Tone Row work relies entirely on the various melodic organizations of the row and does not deviate from the row
- Retrograde Inversion
  - : Contrary motion of tones established already as being in retrograde
  - : An artificial construct
  - : Not compatible with the free continuity of ideas that prompt the other melodic patterns

NB:

Irregular treatment of form can also be thought of as an outgrowth of the irregular phrase & motive concept

Does a composer think of these techniques while composing?

Does not deliberately set out to use a particular technique but rather a creative urge suggests a certain motivic response melded to the needs of the composition as a whole – never as an artifice

In this context it is though of

- These techniques of motivic inversion have a long history with frequent implementation in 17th Century Counterpoint

C. Application of Motivic Contractions

1 Form of a Composition

- Molding of the composer's ideas into an integral whole
- Consists of two basic functions
  - : Statement of themes at their initial exposure or at a return
  - : Development or continuation of these ideas
- Misconception that themes only develop in the Developmental Section of a Sonata Form
  - : The development of motives takes place probably in 3rd measure if not before in all compositions
  - : 'B' section of 'ABA' forms all contain motivic development
  - : Use in transitions to other themes

2 Motivic Contraction or Fragmentation plays an important role in the structural aspect of form

- Reduction in size of motive or phrase quickens the pace of musical flow
- The shorter the unit that we have, the more such smaller units are needed leading to fragmentation
- Must lead to some focal point
  - : Emphasis of melodic contour
  - : An intense harmonic cluster
  - : Define shape of the form by making noticeable the appearance of a new theme or approach to a cadence

3 Accompanying the motivic contraction an acceleration of harmonic rhythm must take place

- Generally coincides with the divisions of the motive
- Motivic contraction may move up or down with an accompanying harmonic pace – not restricted to an ascending pattern of notes
- Harmonic rhythm speeds up as it moves toward its goal
  - : Slackens as it expands the climatic effect
  - : Gradually levels to the next section
- Musical phrase is not limited to one focal point or goal
  - : Melody may rise to a peak which does not coincide with a harmonic acceleration – arriving at the same goal
  - : A phrase may have its goal as a return
    - To prior section
    - Any phrase which specifically contributes to form of composition
    - Would be a structural goal
    - May or may not incorporate these melodic or harmonic techniques

III HARMONIC GROWTH

A. CHROMATIC EXPANSION OF TONALITY

1 Background

- Classic Period
  - : Chromatic scale functioned primarily as the provider of embellishing tones and harmonies for the diatonic order of tones
  - : Gradually musical growth opened new doors of tonal development and the chromatic scale began to play a more important role in the structure of a composition
  - : Beethoven explores new chromatic paths largely in his developmental sections of his symphonies, sonatas, and later string quartets
- Romanticists
  - : Included new colorful harmonies as an integral part of their lyrical melodies
  - : Led to new areas of modulation
    - – Key centers were reached which had only a chromatic relationship to the starting tonic tonality
    - – Wagner's operas provided a need for a wandering tonal system

2 Progression of Expansion

- Bach inventions or fugues modulate only to keys founded upon the diatonic scale
  - : 1st modulation moves to dominant or relative minor keys
  - : The remaining diatonic key centers may then be used unaltered in quality
  - : Then return to the tonic
  - : Diminished triads cannot be used as key centers but in minor key the VII chord may be founded upon the modal degree (major triad one whole step below the tonic)
- Classicists
  - : Classical composers did not feel entirely bound by diatonic limitations leading to more tonal expansion
  - : Beethoven in Waldstein Sonata in C major Opus 53 1st modulation is to altered mediant (E Major)

- Romanticists

    : Similar innovations can be found which herald greater tonal freedom which the Romantic school then helped establish
    : Wagner crystallized this expansion

        – Modulations free of any diatonic restrictions
        – Modulations moving so rapidly and so impermanent that cadences may not reflect all of the tonal movement within the phrase
        – Unrestricted use of transient key centers suggesting the new freedom given the chromatic scale

            + Twelve tones of the scale are given equally important functions as temporary key centers surrounding a basic tonic
            + Permits modulation among twelve different tonalities and their major and minor modes
            + Wagner as the forerunner of the twelve tone scale (do not confuse with Schoenberg's 12 Tone Row)

With this it is just a step closer to understanding that those same 12 Tones can be used as *independent* melodic tones within a single phrase

3 Modulation Techniques

- Common Tone Modulation

    : Causes a movement of harmony which is not rooted down to the former diatonic progression
    : The common tone functions differently in the keys of the modulation

- Enharmonic functions of Dominants

    : Frequently recognized in the change from a dominant chord to that of an augmented sixth resolution
    : Diminished 7^{ths} are exceptionally flexible being made up of equidistant intervals

- Chromatic wandering until diatonic resolutions are made (Chromaticism increased in ornamental melodic writing)

B. APPOGGIATURA CHORDS

1 Good analysis would include recognition of the contrapuntal writing as well as figured bass (which shows the harmonic result)
2 Difficulties occur when analytical terms drawn from one stylistic period are mistakenly applied to another (to a style in which they may be incongruous

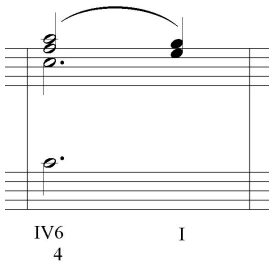
Factors which help determine a melody tone's status in harmonic structure

1 Manner of Resolution:

- All tones which resolve stepwise into the existing triad or 7th chord do NOT have harmonic identity
  - Ear differentiates between the greater dissonances of such harmonic tones
  - Ear recognizes the more consonant resolutions as harmonic
- Some non-harmonic tones do resolve by a skip
  - Échappé & Cambiatta (double neighboring tones)
  - All belong to family called Changing Tones
  - Tones occurring in a compound melody which temporarily appear to skip but actually resolve stepwise after hitting one or more tones in a different range level

2 Rhythmic Duration

- Most non-harmonic tones are equal in time value or shorter than their tones of resolution
  - Exception is the Appoggiatura Chord
- Appoggiatura Chord
  - Resolved Stepwise
  - Sometimes merges as a chord note giving rise to term 'appoggiatura chord'



The F & A of the IV64 Chord are contrapuntal appoggiaturas – results in subdominant harmony embellishing the I chord

- Term would apply only to an appoggiatura receiving rhythmic stress and a duration fully supported by the lower chord members
- Sounds complete by itself and does not require a resolution

3 Resolution accompanied by a harmonic change	Potential chord tone which resolves stepwise or by skip into a different chord	Will be heard also as a chord tone member in the 1st harmonic structure
	Reason how 7ths gained their stature as chord members	Originated out of the contrapuntal 7 – 6 suspension Became chord members in the Baroque period as V7 – I
	In similar fashion 9ths & 13ths follow gradual change from contrapuntal tone to harmonic tone	Wagner's melodic style brought this chordal growth a 'notch' closer toward the eventual unrestricted use of higher-numbered tones As the melody notes became harmonized the entire vertical grouping may merge into a passing chord or an appoggiatura chord
	Appoggiatura chords such as appoggiatura 9th or 13th are those in which the melody tone of 9th or 13th originates as an appoggiatura, suspension, or accented passing tone	The duration of this tone with the vertical sound must be long enough for the listener to identify the complete upward tertial ladder of chord members All members deserve recognition even though a resolution to a simpler chord may also take place

3 Characteristics of extended Appoggiatura Chords

- 9th add additional 3rd (major or minor) to a 7th chord
  - : Requires 7th for support
  - : Generally in melody in this style
  - : As an appoggiatura it receives rhythmic stress and resolves downward (9 – 8) or upward (2 – 3)
- 11th adds another 3rd above the 9th (octave + 4th or Aug 4th above root)
  - : Treated typically as a suspension
  - : Resolves 4 – 3
- 13th is found by octave + 6th (major or minor) above root
  - : Does not require support of the 9th but does of the 7th
  - : Resolves downward to 5th of the 7th chord

4 Use

- In romantic period appoggiatura chords are frequently found at melodic points of tension

- With greater number of harmonic tones the appoggiatura chords emphasis the rising tension generally found in the melodic upward curve of a phrase
- With resolution and downward tendency of most appoggiaturas the arc design of the phrase is completed

IV Details Concerning the Ninth Chord

A. Location in the Overtone Series

1 Overtone series helps to explain many processes of the growth of chords

	Overtone Series								
Partial	1	2	3	4	5	6	7	8	9
Octave Interval	R	R	5	R	3	5	b7	R	9

2 From its position in the overtone series the 9th exists above the Dominant 7th NOT just a triad

- The pitches of the overtone series are *not* equivalent to the Piano due to the tempered tuning
- This does not affect the growth of chords from the overtone series and combined with tempered tuning

B. Dominant 9ths in the Major and Minor Scales

1 Dominant 7th chord is built upon the same tones in both major and minor scales

- Minor scale always uses the raised leading tone for the V7 chord
- Addition of the 9th reflects precisely the scale from which it is derived

	1	2	3	4	5	6	7	8	9	10	11	12	13
Major	C	D	E	F	G	A	B	C	D	E	F	G	A
Minor	C	D	Eb	F	G	Ab	Bb	C	D	Eb	F	G	Ab
						Raised 7th	(B)						
			V7	=	R		3		5		7		9
												In minor	b9

2 The 'Dominant minor 9th chord' – V7(b9) – resolves to a minor tonic triad and also a major tonic triad (V7(b9) – I / V7(b9) – i)

- But *only* when moving from minor to major resolution *not* the reverse major to minor
- Same principle which governs 7th chords built upon the leading tone of a key
  - : The diminished 7th chord (°7th) found in minor key may resolve to either major or minor triad
  - : The half diminished 7th chord (Ø7th) found in major (and reflecting the major key) *cannot* resolve to the minor triad

Major	B	D	F	A	vii^{Ø7}
Minor	B	D	F	Ab	vii^{O7}
	Altered 7th				

These distinctions might reflect the origins of 'major as pure' – the major ending in a minor composition (Picardy 3rd). The composer might go 'backwards' from major to minor usually in a text setting but still never at an ending

- The Overtone Series while producing a dominant 9th as part of the major scale the 9th may be chromatically altered
  - : Lowered to produce the dominant - minor 9th chord (V7$^{(b9)}$) with resolution down to Root
  - : Raised 9th to produce the dominant - augmented 9th chord (V7$^{(\#9)}$) with resolution up to major 3rd

3 Other Quality 9th Chords

- 9th may be added to major or minor 7th chords
  - : ii9 & vi9 in Major – iv9 & i9 in Minor
  - : Contains the b7 of the chord + major 9th
  - : Tone forming the 9th is usually derived from the scale of the phrase involved
  - : The quality of the 7th chord serves as the foundation for all of the higher extensions
- 9th chords which grow out of the diatonic Major 7th chords
  - : I9 & IV9 in Major – VI9 & III9 in Minor
  - : Contains the major 7th + major 9th of the chord

D Major

ii9	E	G	B	D	F#
vi9	B	D	F#	A	C#
I9	D	F#	A	C#	E
IV9	G	B	D	F#	A

D Minor

iv9	G	Bb	D	F	A
i9	D	F	A	C	E

**If used without the raised leading tone 9th is a major 9th interval to a minor 7th chord*

VI9	Bb	D	F	A	C
III9	F	A	C	E	G

: A minor 9th (b9) added to a minor 7th chord is harsh – it does exist as a iii9 in a major key

- Conflict arises out of strong dominant reference of 4 out of the 5 tones
- It is not the minor 9th interval from the root which causes the problem but the strong dominant 7th quality of the top 4 notes

C Major

iii9	E	G	B	D	F

Spells V7 Chord which is strong enough to make the Root of chord sound as 'not belonging – also, the 9th wants to resolve to a tone already present in the chord (9←→Root)

- ii^{o} in a minor key

: Triad is a diminished chord – the added 7th is a minor 7th & the added 9th a minor 9th
: Conflict occurs between the 9th and Root tone

- 9th wants to progress half step down to a note already present in the chord (Root)
- But the ii^{o}9 to the V9 progresses well and the dissonant quality dissipates quickly when voices connect smoothly

4 Terminology

- Not standardized except for actual description of the intervals involved
- Most common labels for minor 9th and major 9th chord can be misleading

: 1st quality applies to the 7th chord as major or minor
: The 9th added is a major 9th above the 7th degree of the chord

- Less confusing is terminology which separates the 7th chord quality from the degree of 9th added

: Minor 7th – 9th chord
: Here the quality of the 9th chord (and 13th) is understood to be major unless specifically noted

- Augmented Major 7th – 9th chord as FAC#EG
- Augmented Dominant 7th – minor 9th chord as FAC#EbGb

Naming with this terminology may seem long but these are specific

- For the 7th chord quality the upper chord extensions are added

: Only the highest numbered chord extensions are listed and any altered chord tones need to be listed also
: Dominant 13th chord is built upon the dominant 7th

- May omit OR include a 9th and contains the minor 13th
- If the 9th is altered in any way the chord label must indicate that
- Dominant – minor 9th– 13th chord

Different Quality of 9th Chords

This does not relate to figured bass which relates to key BUT to interval above the Root [-7 = minor 7th / +7 Major 7th above root]

Minor w/-7 9 (Dominant 7th plus 9th)

C	Eb	G	Bb -7	D +9	Cmin9
C	Eb	G	Bb -7	Db -9	Cmin7(b9)
C	Eb	G	Bb -7	D# #9	Cmin7(#9)

Major w/+7 9 (Major 7th plus 9th)

C	E	G	B +7	D +9	CMaj9
C	E	G	B +7	Db -9	CMaj7(b9)
C	E	G	B +7	D# #9	CMaj7(#9)

Major w/#5 -7 9 (Augmented Dominant plus 9th)

C	E	G#	Bb -7	D +9	C+9
C	E	G#	Bb -7	Db -9	C+7(b9)
C	E	G#	Bb -7	D# #9	C+7(#9)

Major w/#5 +7 9 (Augmented triad Major 7th plus 9th)

C	E	G#	B +7	D +9	CMaj9(#5)
C	E	G#	B +7	Db -9	CMaj7(#5 b9)
C	E	G#	B +7	D# #9	CMaj7(#5 #9)

Major w/b5 -7 9 (Dominant 7th b5 plus 9th)

C	E	Gb	Bb	D	$C9^{(b5)}$
		b5	-7	+9	
C	E	Gb	Bb	Db	$C7^{(b5\ b9)}$
		b5	-7	-9	
C	E	Gb	Bb	D#	$C7^{(b5\ \#9)}$
		b5	-7	#9	

Minor w/b5 -7 9 (Minor 7th b5 plus 9th)

C	Eb	Gb	Bb	D	Cø9
	b3	b5	-7	+9	
C	Eb	Gb	Bb	Db	$Cø7^{(b9)}$
	b3	b5	-7	-9	

Diminished w/+7 9 (Diminished +7 plus 9th)

C	Eb	Gb	B	D	$C^{o(9\ Maj7)}$
			+7	+9	
C	Eb	Gb	B	Db	$C^{o(b9\ Maj7)}$
			+7	-9	

Major w/b5 +7 9 (Major 7th b5 plus 9th)

C	E	Gb	B	D	$CMaj7^{(b5\ 9)}$
		b5	+7	+9	
C	E	Gb	B	Db	$CMaj7^{(b5\ b9)}$
		b5	+7	-9	

5 Chromatic Alterations

- Alterations to triads, 7ths, 9ths, provide a wealth of color
  - : Increase dissonant quality
  - : Functions to smooth chromatic substitutes for expected chord members
- All qualities (consonant & dissonant) are suitable in a musical phrase
  - : If they contribute to the texture and idiom of the composition
  - : The compatibility of the quality of sound in the style and manner of the composition

- Cautions (not all alterations are desirable)
    - Minor 9th interval with Major 7th is rarely used
        - 9th tends to move downward while M7th moves upward
        - If m9th placed below the M7th the widened interval lessens the tonal conflict
        - Can be suggestive of a different harmonic conception than one theoretically built in opposition to a dominant tonal hierarchy
            + Any group of tones which between themselves form a dominant quality will sound blended
            + This will cause to emphasize a tone that is a 'stranger' to their unit
    - Harmonic combinations that do not comfortably 'ally' all of their chord members
        - Compositions in which such an alignment is not expected
        - Recognized as chords containing non-harmonic tones in the form of pedal tones or other appropriate melodic designations

6 Voicings

- All 5 tones of the 9th chord may be present
- Choral writing
    - Allows the divisi of Soprano, Altos, or Tenors to complete the chord (bass divisi weakens the chord foundations)
    - Best divisi always occurs by contrary motion – both in separation and return
    - Oblique motion is also permissible (held common tone with other voice moving)
    - Avoid if possible a division where a single tone separates by parallel motion
- The 5th of the chord may be omitted
    - Practical way of avoiding some parallel 5ths
        - The 5th can cause unavoidable parallel 5th
        - But omission may produce a vertical sound that is too empty
        - Judgment over parallel 5ths should be based on the particular progression AND amount of contrapuntal purity of the surrounding composition
        - Ornamentation can sometimes block perception of the parallel 5th
        - Omission of 5th in dominant minor 9th chord in never necessary as parallel movement would involve a diminished 5th and a Perfect 5th

- Do not omit 3rd or 7th of ANY 9th chord
  - : Not a 'bad' sound but result does not qualify as a 9th chord
  - : Modern idioms use the 9th as an added tone and may use incomplete combinations called 'intervallic structures'
- 9th sounds best in the highest voice or among upper voices involved in the chord
  - : Suggested in the overtone series
  - : Placed in the tenor voice 9th may sound more like a non-harmonic tone
  - : May give effect of a cluster
    - Clustered next to 3rd the 9th loses much of its identity
    - Placed above the 3rd each chord tone retains its identity
  - : A minor 7th – 9th chord may benefit by an adjacent 9th and 3rd to deliberately increase tension
- Tones which are raised (Aug 9th & Aug 5th) demand an upper position in the chord
  - : Augmented 9th is used chiefly in the highest voice
  - : Occasionally a 'neutral' P5th may be placed above the Aug 9th – but this is an exception to the principle of tertiary hierarchy
  - : A Maj7th chord containing an Augmented 9th may be used without the M3rd
    - Prevents the conflict of two 3rds (Aug 9th is enharmonic to m3rd)
    - Permits the raised 9th to be placed in a lower voice
    - The omission may suggest a dominant quality augmented triad above a pedal tone
- Augmented 5th is generally placed above the 7th of the chord
  - : Especially in dominant quality chords
  - : Exceptions do occur as raised chord member is drawn from the whole tone scale and do not inherit any harmful tonal conflicts between themselves
- If both 9th & 5th are raised
  - : 5th may have an advantage in voice leading if it is the upper tone
  - : Both have normal resolution upwards and 5th placed above gives parallel 4ths while if flipped produces parallel 5ths

- Lowered 5th
  - : Generally locate the lowered 5th in the tenor voice
    - – Produces a tritone between bass and tenor
    - – Helps to establish the root and lowered 5th as a base for remaining chord members
  - : Lowered 5th placed in upper voice is more apt to function enharmonically as a raised 11th
- Chords containing both raised and lowered tones
  - : Resolution of each altered tone moves in opposite direction
  - : If enough intervallic space for this resolution movement chord members may be arranged in any suitable organization
    - – Remember to keep raised 5th above 7th of a dominant chord
    - – Resolve all altered tones in proper direction

7 Inversions

- All inversions of dominant 9th are possible
  - : Depends on melodic line bass
  - : Degree of strength required
  - : BUT root position is most common with less usage the higher the inversion
  - : 9th in the bass is usually a passing tone in this period
- Location of the root in all inversions is very important
  - : Bass is primary otherwise place in tenor
  - : Keep 9th above root and 3rd spaced with a wide interval spacing
- Different quality 9th chords can also be inverted but with care to preserve the original tonal associations
  - : Dominant 9th chords assume a preferred organization of chord members
  - : Quality is not destroyed if these chord members are juggled
  - : Other quality 9th chords may completely lose their original identity with indiscriminate mixing of chord members

* +9 indicates a 9th above root (**$3**) indicates the 7th chord inversion

CMaj9

C	E	G	B	D	IM+9 +7
R	3	5	7	9	

G	B	D	E	C	IM +9 +7 $\binom{4}{3}$
5	7	9	3	R	

This inversion creates a G Major Triad and would not sound as an inversion of a CMaj9

G	C	E	B	D	I +9 +7 $\binom{4}{3}$
5	R	3	7	9	

Better as G is heard as inversion and the 7th & 9th are still in the upper voices

Cmin9

C	Eb	G	Bb	D	Im +9 -7
R	b3	5	b7	9	

Bb	D	Eb	G	C	Im +9 -7 $\binom{4}{2}$
b7	9	b3	5	R	

7th & 9th are in lower part of chord creating a Major 3rd interval destroying minor 9th sound

Bb	C	Eb	G	D	Im +9 -7 $\binom{4}{2}$
b7	R	b3	5	9	

Spells m9th chord with 9th in top voice retaining m9th chord sound

- All successful inversions of higher numbered cords retain the lower triad members in the *lower* part of the vertical structure and the 9th and chromatically raised tones placed in the *upper* positions
- A triad (particularly a major triad) in a *bass* position *will* create a root tone

* 9th as bass note is indicated by (9)

Fmin9

F	Ab	Eb	G	C	IVm +9 -7
R	b3	b7	9	5	

Ab	Eb	G	C	F	IVm +9 -7 $\binom{6}{5}$
b3	b7	9	5	R	

Puts an Ab triad sound at bottom of chord will sound as an AbM7(13)

Ab	F	C	Eb	G	IVm +9 -7 $\binom{6}{5}$
b3	R	5	b7	9	

Creates an inverted Fmi triad preserving the Fmi9 sound

OR

G	Ab	C	F	Eb	IVm +9 -7 (9)
9	b3	5	R	b7	

Breaks triad sound in the bass

- Inversions of non-dominant chords usually arise from melodic bass movement in which the Root is *first* heard clearly and then followed by inversion
  - : Infrequency of these inversions is not to imply root positions are better
  - : All musical phrases must contain a balance of strong root movement intermingled with the subdued motion of roots in the inner voices
    - As with triads
    - Primarily for contrapuntal effect

Inversions are indicated by root relationship for quality followed by the 7th chord figuration to denote the inversion in parenthesis. If the 9th is the bass note use (9) to indicate 9th is the bass note

9 is a 9th above Root	-9 is a b9th above Root	#9 is a #9th above the Root
C ←→ D	C ←→ Db	C ←→ D#

Used to indicate all interval qualities above the triad
Indicate minor with -3 (can also use lower case roman numerals or 'm'
Indicate inversion by using 7th chord figured bass in parenthesis – if 9th is in the bass use (9)
Can also use o & ø for dim and half-dim chords in conjunction with roman numerals

CMaj9

	C	E	G	B	D	I 9 +7
	E	G	B	D	C	I 9 +7 $\binom{6}{5}$
	G	B	D	C	E	I 9 +7 $\binom{4}{3}$
	B	D	C	E	G	I 9 +7 $\binom{4}{2}$
	D	C	E	G	B	I 9 +7 (9)

C9

	C	E	G	Bb	D	V 9 -7
	E	G	B	D	C	V 9 -7 $\binom{6}{5}$
	G	Bb	D	C	E	V 9 -7 $\binom{4}{3}$
	B	D	C	E	G	V 9 -7 $\binom{4}{2}$
	D	C	E	G	Bb	V 9 -7 (9)

Cm9

	C	Eb	G	Bb	D	II 9 -7 -3
	Eb	G	Bb	D	C	II 9 -7 -3 $\binom{6}{5}$
	G	Bb	D	C	Eb	II 9 -7 -3 $\binom{4}{3}$
	Bb	D	C	Eb	G	II 9 -7 -3 $\binom{4}{2}$
	D	C	Eb	G	Bb	II 9 -7 -3 (9)

Cø9

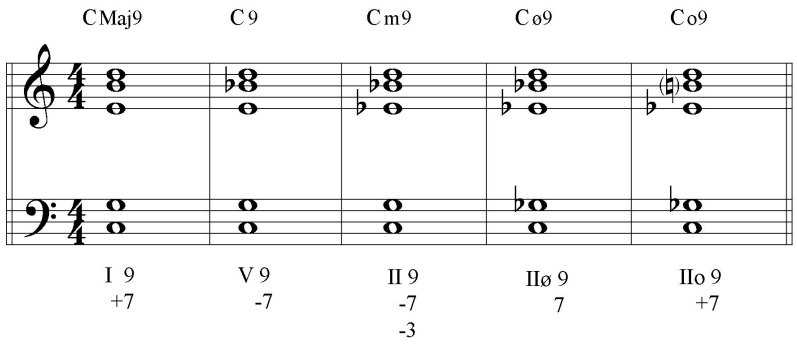
Ø quality is a 7th chord – not necessary to name b5th or 7th

	C	Eb	Gb	Bb	D	IIø 9
	Eb	Gb	Bb	D	C	IIø 9 $\binom{6}{5}$
	Gb	Bb	D	C	Eb	IIø 9 $\binom{4}{3}$
	Bb	D	C	Eb	Gb	IIø 9 $\binom{4}{2}$
	D	C	Eb	Gb	Bb	IIø 9 (9)

Co9

This is a dim triad with +7 and 9th

	C	Eb	Gb	B	D	IIo 9 +7
	Eb	Gb	B	D	C	IIo 9 +7 $\binom{6}{5}$
	Gb	B	D	C	E	IIo 9 +7 $\binom{4}{3}$
	Bb	D	C	Eb	Gb	IIo 9 +7 $\binom{4}{2}$
	D	C	Eb	Gb	B	IIo 9 +7 (9)



If find using Upper case roman numerals for Major and Dominant chords and lower case roman numerals for minor, diminished, & half-diminished chords a little clearer
Tonic Major as I - Dominant as V // minor & dim & half-dim as ii – iio – iiø etc.
To indicate voice movement the figured bass would have to include all voice movement
I think the ø7 chord should have the 7th indicated as -7 rather than as '7' to clarify the minor 7th distance above the root – also the b5 is understood as part of the triad with the ø & o chords and does not have to be indicated
Remember this is not the same as conventional figured bass

8 Progressions

- Movement of the 9th falls into 2 categories
  - : Resolution of the 9th within existing harmony
  - : Progression of the 9th to a new root
- Appoggiatura 9ths always resolve within the same root
  - : Usually a 9 – 8 suspension
  - : Resolving upward to the 3rd of the same chord
  - : The appoggiatura chord appears together with a 7th chord
  - : Receive enough rhythmic stress for recognition of the 9th
    - Based on rhythmic judgment
    - Knowledge of historical style
- No matter what rhythmic value the 9th has (excepting a brief neighboring tone) it will take on the full significance of a chord member
- Features of 9th chords beyond use as appoggiatura chords – the next stage of growth
  - : A predominance of the cadential progression
  - : Almost exclusive use of the dominant quality of 9th chord
  - : Rhythmic equality to the chord tones of the 9th (as opposed to the appoggiatura 9th)
  - : A surrounding texture of chromaticism
- The thickening quality that 9th chords produce tend to blot out the movement of the individual parts or make them less distinct

- Dividing tenor may produce parallel 5^{ths} but can not be readily detected
  - : Progressions containing many common tones effects chordal blend of sound rather than a polyphonic one
    - The 5^{ths} occur between different chordal members
    - Only part of divided tenor will move and form 5^{ths}
    - The common tone is static
  - : Keep in mind that divisi is not just a simple way of avoiding disciplinary practices
    - Most valuable for ensemble writing
    - Obligatory to achieve a rich sound in a string orchestra
- The skill of expanding and shrinking chordal structure is as important as its counterpart – the polyphonic movement of voices
- All progressions that are effective with triads & 7^{ths} may also be used with 9^{th} chords
  - : A complete departure from diatonic practices occur in the Impressionistic period
  - : First stage of learning the movement of harmonic extensions is best accomplished within familiar root progressions
    - Here most of the chromatically altered tones produce some sort of dominant quality
    - Progress by cadential root movement
    - Or progress by evaded progression
- When using the raised or lowered 5^{th} or 9^{th} be sure to continue in the direction of the altered tone
  - : An augmented tone *must* move upward usually (but not always) by half step
  - : A lowered tone is expected to descend
  - : For both, a switching of parts may occur postponing the necessary resolution for the latter voice involved
- In picking a particular quality of 9^{th} be consistent
  - : With tonal center of the phrase
  - : With the quality of triad to which the 9^{th} resolves
- Selected 9^{th} in a dominant cycle also reflects the quality of the surrounding key

V ELEVENTH AND THIRTEENTH CHORDS

A. NATURAL 11THS

1 Paradox of 9th & 11th chord tones

- Natural 11th is the tone formed by octave plus P4th above the chord root – distinguished from chromatically altered Aug 11th chord which is generally associated with dominant 7th & 9th chords
  - : 9th chord grows out of the 9 – 8 suspension
  - : 11th should emerge out of the 4 – 3 suspension but it is not entirely equivalent
  - : 9th has complete status as a chord tone with independence achieved early on
  - : 11th chiefly functions as a non-harmonic tone up to and even beyond 1900
- The 11th built upon the dominant chord of major or minor keys is the tonic tone and effects strongly the function of 11th chords
  - : Playing both natural 11th and 3rd of chord creates a sharp dissonance
    - – Not because of minor 9th interval created
    - – Rather the presence of the 11th and its note of resolution occurring simultaneously
  - : Omit the 3rd and the clash no longer occurs but the 11th will not 'hold' as a chord tone
    - – Results in an 'emptiness'
    - – Forces the 11th to resolve down to complete the necessary dominant quality
  - : This melodic insistence of the natural 11th to resolve down to fulfill the needed 3rd of the harmonic structure prevents it
    - – Being on equal 'par' with the 9th or 13th
    - – The 9th & 13th may be added to complete dominant 7th chords and do not require a melodic resolution into the existing chord
- The natural 11th becomes a chord tone in 'Modern' styles
  - : Frequently replacing the 3rd
  - : Abandons the former classical concept of triadic sound

2 Construction

- Natural 11th chord may be built upon degrees of scale other than the dominant
  - : As a II^{11} of a major key the 6 tone chord may be complete including the 3rd of the minor triad
  - : The included 3rd *must* be the lower tone separating from the 11th by more than an octave
  - : If the 4 – 3 resolution occurs against the same root or in a changing progression it is best to omit the 3rd for clarity

- Adding an 11th to a tonic major triad does *not* produce a I^{11} in a major key
  - : It is heard as a V^7 over a tonic pedal tone

F
D
B
G — Forms a dominant 7th chord

omitted E
C

  - : Applies to other triads of a key in which the 5-7-9-11 chord members form a dominant 7th quality
- In minor the tonic is represented by a minor 7th chord
  - : May be expanded into a natural 11th chord
  - : The i^{11} & iv^{11} of the minor key are identical in quality to the ii^{11} & the vi^{11} of the major key
- The predominating 11th chord is therefore one built upon the minor triads of the key
  - : Major triads demand the omission of the 3rd and frequently place the status of the 11th degree in doubt
  - : Exceptions
    - The IV^{11} of a major key contains an 11th which is actually the leading tone of the scale (Aug 11th)
    - Produces a chord which is a $Major7^{(aug\ 11)}$
    - Presence of the 9th (unaltered) is implied and maybe omitted without change to $Major7^{(aug\ 11)}$ chord name
    - This same relationship exists in a VI^{11} in a minor key

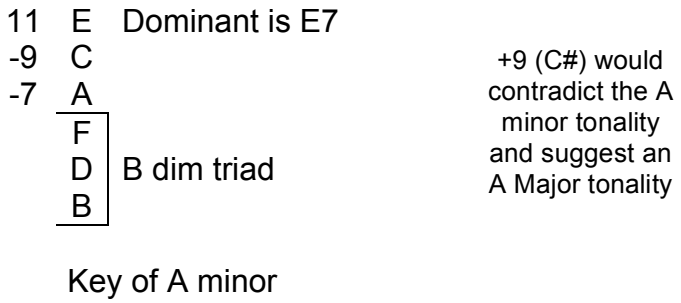
D #11
Bb 9 (B) #9
G +7
Eb
C
Ab

VI $M7^{(aug11)}$

C Minor

  - + Presence of leading tone here affects the 9th which may be raised or not depending on the progression
  - + The Major 3rd is included and is actually an asset to chordal quality

- The ii^{7} of a minor key is a ø7 and the 11th is actually the tone of the dominant chord



  - : Tones of the ii^{ø11}ally themselves with the dominant tone
    - Lower members of chord (B D F) are 5 / -7 / b9 of the Dominant chord
    - The -7 and b9 tend to resolve down to the 3rd and 5th notes of the dominant chord (A ← → G# / C ← → B)
    - Questions whether the 11th can maintain its own identity or merges into the dominant function
    - Appraisal of any leading tone characteristics in other progressions containing this chord my reveal dominant influence rather than a supertonic one
    - If the 9th is a major 9th (+9) with the bass tone in a minor key the major 9th interval suggests a *major* key center
- Subdominant triads or supertonic 7th chords placed over a pedal tone will give the appearance of a dominant 7th
  - : 11th functions in a non-harmonic role
    - As a member of a passing subdominant triad
    - As a soprano 4 – 3 suspension

3 Summary

- Factors of progression, location, and melodic independence determine the status of a chord member
- Minor natural 11th chords contribute to a modal flavor in a modern context
  - : 3rd is frequently omitted and the quality of the total chord may be uncertain
  - : Minor triad is suggested in the incomplete forms of the 11th chord avoiding any dissonant implications with the Major 3rd
- Removing the 4 – 3 Classical heritage natural 11th gains much melodic flexibility and are recognized in the modern idiom

B. AUGMENTED 11THS

1 Note that the overtone series produces the tone that forms the augmented 11th above the root of a dominant chord (rather than that of the natural 11th)

- The aug 11th (octave + aug 4th) above the root is a chromatically raised tone when built upon the dominant root of a key
- The aug 11th is a smooth addition to the dominant 7th or 9th chord
  - : May be used in complete form or with 5th omitted
  - : As a chromatically raised tone the movement of the aug 11th *must* continue upward generally resolving by 1/2 step
  - : If the root changes in a cycle of dominants the aug 11th resolves to the major ninth of the next dominant

2 Voicing

- Should be placed on top or upper division of the vertical structure
- Will *not* sound as a chord member if 3rd or especially 5th is adjacent to it
- Location of tones approximates the order found in the overtone series
- Tones which stretch beyond the lower 7th chord must be separated sufficiently in interval distance with the lower triad to convey their role as upper harmonic members
- Enharmonic notation of the aug 11th results in the spelling of a diminished 5th to root
  - : Here motion is expected to continue *downward*
  - : Differs in function from the aug 11th
  - : Not used with P5th as both have the same directional tendency
  - : Substituting for the P5th the dim 5th maybe the lowest tone itself as an inversion
- Chromatic forms of the 9th chord may include the tone of the aug 11th
  - : Can contain the minor 9th or aug 9th
  - : In addition the 5th may be raised
  - : Minor 9th aug 11th ($m9^{(aug11)}$) is popular at a cadence
    - Can contain minor 7th
    - Can contain major 7th

3 Analysis

- Do not confuse the analysis figuration with traditional figured bass
- Quality of 7th chord is indicated first
- Any chromatic alterations to chord members are marked in numerical ascendency to the highest part of the chord
- 11 left alone is a natural 11th and may use natural sign with 11 or indicated as p.11
- Signs indicating major or minor are inaccurate
- # indicates interval is augmented and has nothing to do with key signature

C#	#11	C#	C#	C#	C#	C#
A	9	Ab	A#	A	Ab	A#
D		D	D	D#	D#	D#
B	Dom	B	B	B	B	B
F	7th	F	F	F	F	F
G		G	G	G	G	G
V#11		V#11 b9	V#11 #9	V#11 #5	V#11 b9 #5	V#11 #9 #5

V assumes a dominant quality

4 Inversions

- Higher numbered chord members *can not* be switched into a lower position and remain as 'high' extensions to root
- An augmented may be seen as a bass inversion but questionable if this truly reflects as a raised 11th
- Aug 11th best inverted in 2nd inversion
  - : With aug 11th in top voice and 5th in bass the distribution of chord members is well balanced
  - : Raised 11th *must* remain in upper placement
  - : Can function as dim 5th in lower voice
- Inversions of 11th chord built upon minor 7th and major 7th chords
  - : In all cases the members of the lower triad of the inversion are used immediately above the tone of the inversion
  - : Inclusion of the 3rd in non-dominant chords is helpful in recognizing the root when inversions are used
  - : The 9th is frequently omitted with the inclusion of the 3rd

D			G	D
B	D	D	D	A
G	G	B	A	E
E	E	G	C	C
C	A	A	A	A
A	C	E	E	G
11	11	11	11	11
-7	-7	-7	-7	-7
	$\binom{6}{5}$	$\binom{4}{3}$	$\binom{4}{3}$	$\binom{4}{2}$

: With the 9th in bass clustered next to the 3rd the 7th is omitted

+ If 7th should be used in this inversion it would hamper the root strength by forming other harmonic associations
+ 9th in the bass is extremely weak and is heard most frequently as a non-harmonic tone

: With 11th in the bass the root and 5th is doubled with intent to distract from the bass tone and can only be judged in context if heard as an 11th

: The 9th is most commonly omitted in inversions of the Major 7th – augmented 11th chord

– Only actual counterpoint of the phrase can determine how voicings should be arranged
– Role as chord tone or non-harmonic tone will be judged automatically when given motivic understanding

C. THIRTEENTH CHORDS

1 Dominant 13th chord emerges similarly to the 9th – both arising out of melodic non-harmonic tones

- Tendency is to resolve downward to the 5th of same chord
- If resolution occurs on the same root the chord will emerge as a 9th
- If prolonged rhythmic stress to the 13th and resolution is short and secondary

: Will be heard as dominant 13th
: May be called and appoggiatura 13th

- If chord changes upon resolution of the 13th

: Full stature of 13th is achieved
: May progress in any fashion appropriate to composition

- 13th (and 9th) reflect the major or minor scale they are derived from

: In major would have a major 6th + octave above root (13)
: In minor would have a minor 6th + octave above root (–13 or b13)
: i.e. In G major, 6th would be 'E' and in G minor, 6th would be 'Eb"

- Being part of major or minor scale affects their use in a key the same way as discussed for 9th
- Interesting results can be heard by mixing the minor/major/aug 9th with minor or major 13th

: If major 9th precedes the b13th chord the b13th may actually be a #5th
: So 5th of b13th must be omitted
: Major 9th actually announces a major tonality so raised 5th resolving *upward* supports that

- Dominant minor 13th generally includes the minor 9th (V (b13 b9))
  - : Occasionally uses aug 9th
  - : Major 13th can occur with all 9ths and with natural 11th
    - – Raised 11th with minor 13th is used only with large separation
    - – Raised 11th should be placed above the 13th

2 Voicing

- Location of tones in a 13th chord is doubly as important as in 9th chord
  - : Due to the upward climb of 3rds the 13th demands the highest position
  - : but occasionally 9th can be directly above the 13th
- Exception is with inversions where the root is the highest voice
  - : Here it merges with the lowest tones
  - : 1st & 3rd inversions or with 9th in bass rely heavily on soprano voice to unite chord members
- Most unlikely that 13th or 11th could occupy a harmonic bass position and preserve the root of the chord
  - : Becomes unclear
  - : Permits upper voice to dominant
- 13th chord has 7 tones in its full compliment
  - : Used without discretion as to each tones degree of importance to the root
  - : Sound will emerge that may completely distort the original intention
    - – Any bass note will have its overtones supporting it as 'root'
    - – May combine with tenor note
    - – Both will create a framework for a different chord than intended

3 Analysis

- Most 13th chords are of dominant quality
- Distant second is the major triad with the 9th or 13th
  - : Major 7th may or may not be present
  - : Used frequently with a tonic quality the 9th or 13th become more in the nature of an added tone rather than active chord members of the upper hierarchy of chord
    - – Added tone 9th & 13th to triad merely add color
    - – Triad with 13th becomes I^{+6} – a I^{13} would imply the presence of the 7th and 9th
    - – Upper chord members create a demand for more motion in the harmony

- Minor 7^{th} – 13^{th} chords are not common
  - : Not sound that is avoided but the terminology
  - : Tone of the 13^{th} tends to upset the solidarity of the bass tone
    - Built upon the supertonic 7^{th} chord the 13^{th} is the leading tone of the key
    - Produces a dominant function replacing the supertonic desire of moving toward a dominant
    - The 13^{th} & bass note form a more powerful union than the lower minor triad

4 Inversions

- 13^{th} chords prefer resolutions to other higher numbered harmonies
- 13^{th} alternates with the 9^{th}
  - : The 9^{th} tone would usually alternate with the 5^{th}
  - : The 13^{th} replaces the 5^{th}

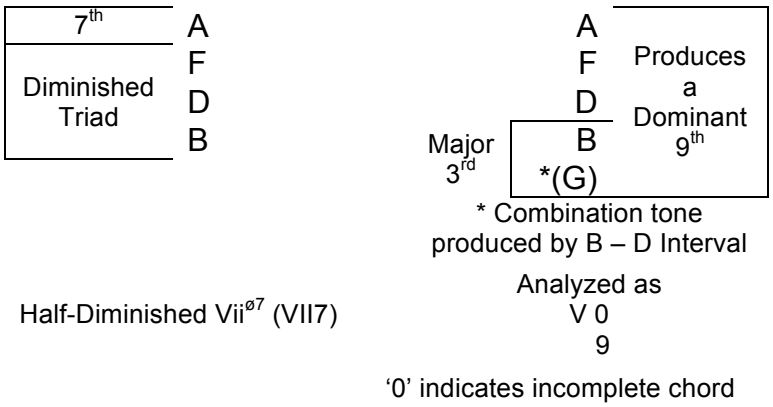
VI LEADING TONE CHORDS

A. ANALYTICAL TERMINOLOGY

1 Two theories as to the naming of the Leading Tone 7th Chord

- Leading tone as root
  - : Moves up in 3rds respectively to complete the 7th chord
  - : Creates a vii^{ø7}
- NO acknowledgement of giving the leading tone status as root
  - : Has singular function of moving toward tonic
  - : According to the theory of overtones and combination tones expressed by Paul Hindemith's "Craft of Musical Composition"
    - – The diminished triad upon which the vii^{ø7} is built cannot acoustically claim to be a root position chord
      - + Leading tone would invoke the same proportionate overtone series as any other note
      - + Would therefore include a P5th rather than a diminished one as a necessary supporting partial to the root
      - + The diminished 5th does exist as an intervallic formation between the 5th & 7th partials
    - – Combination tones are the product of an interval (two or more simultaneously sounding tones)
      - + A minor 3rd interval struck simultaneously produces two combination tones both giving the pitch of a major 3rd below the sounding minor 3rd

2 With this in mind the 2nd theory calls for the leading tone 7th chord to be an incomplete dominant 9th



3 There is merit to both orientations as half-diminished 7th chord and as incomplete 9th

- The diminished 7th chord has the unique sound quality of being built on minor 3rds
  - : Add the dominant tone below the distinct color is disrupted by the richness of the major 3rd interval
  - : Composers have used the o7 chord with no inclusion of the dominant tone
    - – The enharmonic treatment of the minor 3rds provides and excellent means of chromatic embellishment
    - – With combination tone added the subsequent dominant reference would certainly cancel the intended subtlety
    - – The symbol for the diminished 7th chord should reflect its individuality and not indicate a dominant framework unless used in that capacity
- The leading-tone 7th chord formed by the major scale
  - : Is much more conducive toward recognition as part of a dominant 9th chord
  - : As a 7th chord the quality is half-diminished (ø7)
    - – Intervals form a diminished triad + b7
    - – Diminished would be diminished triad + bb7
  - : By not containing equal intervals the inversion of this leading tone chord (ø7) would always retain their original functions as dominant chord members
    - – If dominant tone as a bass root is added to the ø7 chord clarity and strength of purpose are gained (G – BDFA)
    - – Enhances the already existing characteristics of the chord members
- Merger of viiø7 and V7
  - : The leading-tone and dominant chords become inseparable in their functions when used in succession
  - : Descending melodic resolution of the 7th accounts for most of the melodic movement which blends into the $V^6/_5$
  - : No matter how these chords merge in any inversion the total group emerges together as one harmonic entity supporting the dominant

B. A RE-EVALUATION OF THE FIGURED BASS

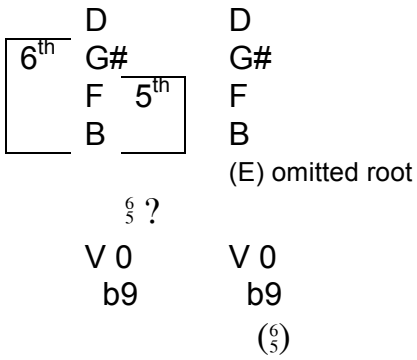
1 With the leading-tone chord (forerunner amongst more advanced dominant complexes) rises a need for new analytical terminology

- Separates the intervallic analysis from the resulting harmonic combinations
- Let VII7 represent the leading-tone chord provided
  - : No resolution or involvement of the dominant tone – if dominant tone involved would use 'V'
  - : VII represents either viio7 or viiø7 quality from chord formations built upon the leading tone – *leading tone is not a root*
  - : No higher numbered chord members exist beyond the *four tones* represented by the diminished or half-diminished quality
    - – Necessary because as more chord members are added the dominant framework grows stronger
    - – The equidistant diminished 7^{th} framework vanishes as the new intervallic formations are created
- This plan retains the individuality (particularly of the o7) when left unresolved to the dominant
  - : Does not imply a five note chord
  - : If dominant tone emerges from a VII7 chord it anchors and clarifies the single function of all combined chord members
    - – Here the VII7 is recognized only as a contributing upper part of the dominant hierarchy
    - – The dominant tone is marked as root with accompanying bass note inversions derived from the dominant chord
    - – Independent from a particular rhythmic location that denotes a 7 – 6 or 9 – 8 melodic resolution

2 The identification of the chord members results from the selection of a tone which functions as a leading tone

- In many chromatic passages no single tone of a o7 chord can claim any particular identity – only on resolution can the leading tone be detected
- If the chord is inverted and leading tone recognized in an upper voice
  - : The bass tone relates to the same tertiary organization that provided the source of the leading tone
  - : Leading-tone chord inversion (this is a 4 note chord)
    - – 1^{st} inversion is 5^{th} in the bass
    - – 2^{nd} inversion is 7^{th} in the bass
    - – 3^{rd} inversion is 9^{th} in the bass

- Figured bass effective for all chords built upon roots causes misleading implications when applied upon leading-tone chords
  - : As previous, the inversion numeration lost contrapuntal significance
  - : These have been associated with parts of the chord
  - : They conflict and contradict each other when applied
  - : In practice any higher numbered chord is ‘awkwardly’ expressed by the traditional contrapuntal configuration



- Instrumental compositions tend to present a total harmonic sound
  - : Largely more rhythmic and percussive n the free increase and decrease of parts
  - : Requires less analytical detail for understanding
- For this study
  - : Place highest chord member at upper right side of roman numeral or letter name
  - : Solution 1–In parenthesis place the traditional figuration for denoting inversions on lower right
    - This denotes inversions for 4 note 7th chords
    - There is no accepted numeral for an inversion with the 9th or other upper extension can be represented in the bass
  - : Solution 2–Proceed as already indicated but in the lower parenthesis add number which designates the bass tone

Solution 1 (Key of Bb)

D	D	D	A	C	C
G	G	A	F	A	F
Eb	Eb	F	Bb	F	D
A	F	Bb	G	D	Bb
F	A	G	D	Bb	A
V^{13}	V^{13}	$VI\ ^{9}_{-7}$	$VI\ ^{9}_{-7}$	$I\ ^{9}_{+7}$	$I\ ^{9}_{+7}$
	$(^{6}_{5})$		$(^{4}_{3})$		$(^{4}_{2})$

Solution 2 (Key of Bb)

D	D	B
A	G	G
F	Eb	Eb
Eb	F	A
C	A	F
Gb		C
$V^{13}_{\flat 9}$	V^{13}	$V^{\sharp 11}$
(b9)	(3)	(5)

Marked by relationship to root note

Can indicate movement regardless of bass note

: Solution 2 recognizes that chords gain identity through their relationship with root of chord

- Marks the inversion by the harmonic identity of each chord member
- Can mark movement of chord members from the root recognition rather than intervallically from bass tone
- Offers a solution to the leading tone figuration
  - + Symbol VII^{o7} still represents the 4 tones of the diminished 7th quality
  - + Inversions are computed by relationship to the parent tone
  - + Here the root of the dominant harmony not intervallic distance to bass tone is used
  - + VIIo7 is a 4 note chord with the root – the dominant is omitted

Key of C

A	A	Ab	Ab
F	F	F	F
D	D	D	D
B	B	B	B
	(G)		(G)
$VII^{\varnothing 7}$	V^{9}_{-7}	$VII^{\circ 7}$	$V^{\flat 9}_{-7}$

  - + The figuration for the 3rd in the bass is not needed – VII automatically indicates 3rd in the bass
  - + Remaining possible inversions would have 5-7-9 in bass
- In a passage in which the quality of a diminished chord is recognized but sound of leading tone is masked by other chromatic material
  - + The symbol itself is indication of this quality and inversion need not be emphasized till heard
  - + Indicate with just $^{o}7$

3 Need for both types of analysis – traditional contrapuntal and vertical identification

- Traditional contrapuntal figuration still used to describe a contrapuntal passage
- Harmonic identification when harmonic progression is indicated
- Figurations have traditionally denoted chromatic alterations to the *key center* producing chromatic chords
  - : First recognize the sound
  - : Then adjust accidentals as necessary to the key signature
  - : Missing is the relationship of the *root tones* to the key center
- As the diatonic solidarity of the harmonic content weakens need to
  - : Combine the relationship of root tones to the tonic tonality
  - : Accommodate the differing qualities of the vertical sound
- Seven roman numerals that indicate the degree of major and minor scale
  - : Imply quality of the triads and 7^{th} chords that the scale produces
  - : Chromatic procedures have expanded the numerals by proceeding with accidentals of sharp, flat, and natural to include all 12 tones as possible roots
  - : With altered dominants diminished chord use of V / IV (V of IV) would indicate altered I chord from major to dominant 7^{th} (C7 → F)

4 Method efficient in the analysis of the unconventional composition and brings forth a union of key relationship and quality in the conventional composition

- All roman numerals relate to the key center and assume the quality established by the major or minor scale (as is customary)
  - : Altered root tones are marked with preceding accidental placed to the left of a roman numeral
  - : These chromatic roots <u>*do not*</u> have an established quality associate with them
- When root on a particular degree of scale is part of a chord which does not form expected quality
  - : First mark roman numeral as usual
    - – Follow with semi-colon and symbol for quality that is involved
    - – Inversions and extensions are indicated with symbols after the semi-colon as already stated previously
    - – If only triad qualities are altered use '+' or '-' for quality after the roman numeral

- Leading tone chord whose parent tone is explicit in the phrase but not actually sounding
  - : VII^{o7} or $VII^{ø7}$ if it is not chromatic (really located on the leading tone degree of the scale)
  - : Or by roman numeral of the implied dominant root in brackets followed by semi-colon after which the diminished or half diminished VII^{o7} – $VII^{ø7}$ is placed
  - : Visual recognition of the implied parent tone in diminished 7^{th} chords generally clarifies the basic root progression
- Any chromatic passage which 'for the moment' has no significant tonal orientation omits the 1^{st} stage of this analytical method
  - : Only qualities are then indicated
    - – When denoting qualities alone use o7 or ø7 omitting the roman numeral
    - – For dominant chords the use of roman numeral V is unavoidable
  - : For the most part such chords are of a dominant or diminished quality
  - : A visual stream of such chord symbols makes evident that the music is in flux
  - : With the return of basic roman numerals the association of sound to key is re-established
  - : To denote a true dominant after a modulatory series the letter name of the key center may be used

F+: V7 | I

- Omission of the 1^{st} stage of this method is convenient in passages in which the counterpoint forms many rapidly changing harmonies
  - : These may not be important for the harmonic scheme of the phrase
  - : Fleeting rhythmical design of chords which doesn't warrant constant reference to the parent tonality
    - – Cause of such sounds is a contrapuntal merging of material rather than part of a harmonic plan that shapes a phrase
    - – May be marked as reference to vertical sound alone

Key of Dmi

F D A D	G E Bb C#	F D A D		F# Eb A C (D)		G D G Bb	E C G C	F C A F		A B F D (G)	F C A C	E C G C	F C A F
i	**Vii^{o7}**	**i**	**[I]:**	**Vii^{o7}**		**iv^{6}**							
					F+:	**ii^{6}**	**V**	**I**	**[ii]**	**Vii^{ø7}** (5)	**I $^{6}_{4}$**	**V**	**I**
D-	**A7^{b9}** Not chromatic based on leading tone of scale	**D-**		**D7^{b9}** Chromatic implied root	**Dm:** **F+:** Key change to F Major	**G-** **G-**	**C**	**F**		**G^{9}** Chromatic implied Root	**F/C**	**C**	**F**

Key of Dmi

F A D D	E G C# Bb	Eb F# C A (D)	D# F# B A	E E B G#	D	C# E Bb G	C# E Bb F#	C Eb A F#	B D A F	E	B F A D	B	A E C E	G# E B E	A E C A
i	**Vii^{o7}** **(-9)**	**[I]:Vii^{o7}** **(5)**	**V $^{4}_{2}$**	**V $^{6}_{5}$**		**o7**	**V^{7}** **en** (A#)	**o7**	**a-:Ii^{ø7}** $^{4}_{3}$		**$^{6}_{5}$**		**I $^{6}_{4}$**	**V**	**i**
D-	A7$^{(b9)}$ Not Chromatic locate on leading tone of scale	D7^{b9} Chromatic indicate implied root	B7	E7		G^{o7}	F#7	F#^{o7} A-:	B^{ø7} B^{ø7} Key Change		B^{ø7}		A-	E	A-

Chromatic Passage

C. IMPLIED ROOTS

1 In all 13th chords each tone has a special tendency – a resolution it wants to fulfill to the tonic chord

	3	← →	To Tonic	B → C
If Present	5	← →	Doubles the Tonic 9th	D → D
	7	← →	Moves to the 3rd	F → E
	9	← →	To 5th	A → G
If Present	#11	← →	To added 9th	C# → D
	13	← →	Anticipates entire cadential resolution – either remaining on the same pitch becoming the 3rd of tonic OR moving to other nearby chord members	E → E

(G)
G13 C (add 9)

- Omitting the bass tone of 13th chord and the movement desired by each upper tone is the same
  - : Resolutions are identical
  - : Becomes an 'implied dominant 13th
    - – Usually used with leading tone in the bass
    - – Also can have 5 / 7 / 9 in the bass

2 Adding upper tones to a diminished 7th chord destroys the equidistant minor 3rd relationship

- Causes them to be absorbed into the fundamental dominant organization
  - : As stated previously the diminished 7th chord has no 'right' to its own identity
  - : Not necessary to always imply its fundamental derivation
- Identity becomes weakened with upper harmonic extensions
  - : Extensions combine and support more positively a select group of tones from the diminished 7th formation
  - : The interchangeability of the o7 tones is interfered with by the added upper tones
  - : Here the fundamental root gains more power and its control on the behavior of all chord members is manifested in the progressions involved

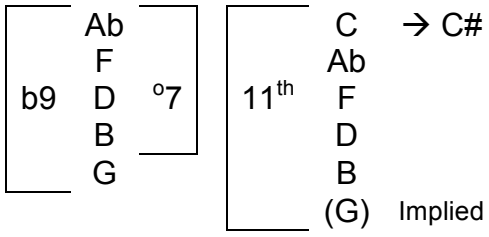
o7 Minor 3rd interval between all notes

bb7 (6)	Bbb (A)	Dbb (C)	Eb	Gb
b5	Gb	Bbb	Dbb (C)	Fbb (Eb)
b3	Eb	Gb	Bbb	Dbb (C)
R	C	Eb	Gb	Bbb
	C^{o7}	**Eb^{o7}**	**Gb^{o7}**	**Bbb^{o7}**

Each of these o7 chords contain the same notes but are
labeled from the indicated root
If an upper harmonic extension is added it
Defines and fixes the root – also disrupting
the minor 3rd symmetry

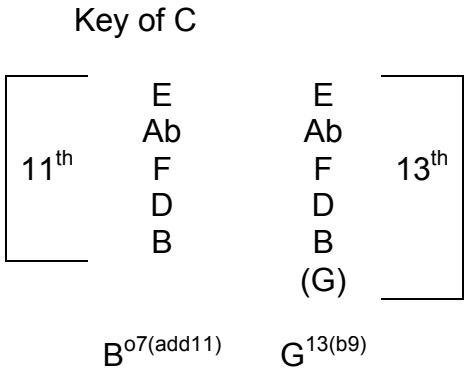
- Adding b9 to the diminished chord becomes extremely harsh while readily accepted in dominant chord
  - : Here the b9 is a natural 11th above the implied root of the dominant chord and conflicts with the major 3rd
  - : Raise the 11th and a normal voicing occurs

Key of C



  - : The tone added above the diminished 7th chord is not a 9th in the dominant hierarchy
    - – By adding the #11th above the implied dominant root a V7(b9 #11) voicing is created
    - – The chord becomes a 1st inversion dominant chord with root omitted built on the leading-tone

- If a natural 11th is added to a diminished 7th chord it will not be heard as a natural 11th
  - : It will be rather the 13th of the implied dominant root
  - : Creates an expectation to fulfill the normal cadential function

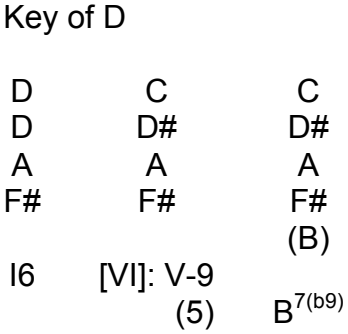


3 Characteristics of omitted root chords

- Less securely situated than if the root tone is present (especially if located in the bass)
- Enharmonic changes may invite surprising resolutions

4 Symbols for analysis of higher-numbered rootless dominant chords

- V for dominant function
- [V] add brackets to indicate omitted root
- If omitted root is other than scale specific 5th
  - : Place roman numeral designating the parent tone (or implied root) in brackets
  - : Follow with semicolon and dominant symbol



Implied root is B forming a VI dominant b9 chord with 5th in the bass

5 Tritone function

- Secret behind implied roots is the behavior of the tritone
  - : Either diminished 5th or inversion of augmented 4th
  - : In scale it is 4th to 7th tone or 3rd to 7th tone of dominant 7th chord

1	2	3	4	5	6	7	8
C	D	E	F	G	A	B	C
			Aug 4th				

1	3	5	7
G	B	D	F
	Dim	5th	

- This resolution of the aug 4th (dim 5th) in the dominant 7th chord that dictates the implied root

Key of C

F	→	E		Ab		
D				**F**	→	E
B	→	C		D		
G				**B**	→	C
				(G)		

  - : The tritone (F – B) resolving to C major functions as an implied G dominant chord
  - : Enharmonic spelling will change the resolution
    - B altered to Cb will resolve downward
    - Becomes a Db dominant to Gb major

	Ab				Ebb		
	F	→	E		**Cb**	→	Bb
	D				Ab		
	B	→	C		F	→	Gb
Implied	(G)				(Db)		
	[V]		I		[V]		I

- Two other tritones exist in dominant structures – (5 – b9) & (R – b5)
  - : This chromatically altered the logical order of intervals in the overtone series
  - : May be derived from the Whole Tone scale and *not* function as a dominant chord
- All tritones will 'fall in line' and resolve automatically if you discover the main dominant influence – the tritons governing action of 3rd and 7th
  - : The leading tone (3rd of V dominant) wants to resolve upward to the Root of the Tonic chord
  - : The 7th wants to resolve downward to the 3rd of the Tonic chord
  - : Creates contrary motion
- With the dominant to dominant movement (V of V) the leading tone is frequently thwarted in upward resolution and resolves downward to the 7th of the new dominant
  - : True with 7th chord and any of its inversions
  - : As well as 13th chords
  - : And with implied roots suggesting the cycle of dominants
  - : Instead of moving to a root by leading tone it descends chromatically landing on the alternating 3rd & 7th of the dominant quality chords

G	C	F	Bb
E	A	D	G
C#	F#	B	E
A	D	G	C
A7	**D7**	**G7**	**C7**

6 Evaded Progressions or those involving root movements other than the cadential progression

- Are feasible but less convincing when using implied roots
- May sound as a different dominant to tonic formula

E	E		E	E
B	A		B	A
Ab	G		**G#**	G
F	E	→	F	E
		Sounds		
D	C#	Like	**D**	C#
B	Bb		B	Bb
G [V] $^{13}_{-9}$	A VI^{b9}		E V^{-9}	A V^{-9}
(3)	(b9)		(5)	(b9)
G13b9 Omitted Root	A7b9		E7b9	A7b9

- It is the resolution of the tritone which acts as 3rd and 7th of the dominant structure which governs the implied root progression
  - : With implied chromatic root movement
  - : Evaded progression
  - : Root movement other than cadential progression

7 Parallel Chromatic Chords

- Move up or down by ½ step whether the roots are implied or present
- It is the resolution tendencies of chord members that makes the implied root recognizable
  - : Parallel progressions destroy these tendencies
  - : Causes one tone to dominate declaring as root
  - : Root based on an intervallic order of sound

8 Common Tone Connections

- Particularly evident in mediant and tritone root relationships
- The more complex the chord becomes the more ambiguous it can be unless a root tone emerges clearly from these harmonies
- May depend upon instrumentation or a total recognition of tonality within the phrase

Common Tones – m3rd Root Intervals

	B	B	B	A#
	Gb	F#	F#	F#
	Eb	Eb	D#	D#
	C	C	C	B#
	A	A	A	G#
(Implied Root)	(F)	(D)	*B*	*G#*
	[V] #11 b9 7	**[V] 13 b9**	**V9**	**V9**
	$\binom{6}{5}$	$\binom{4}{3}$		

D. THE HALF DIMINISHED II CHORD

1 Dual Nature

- As independent chord not associated with the dominant
- As a chord which so easily fuses itself with the dominant that its independence is in jeopardy

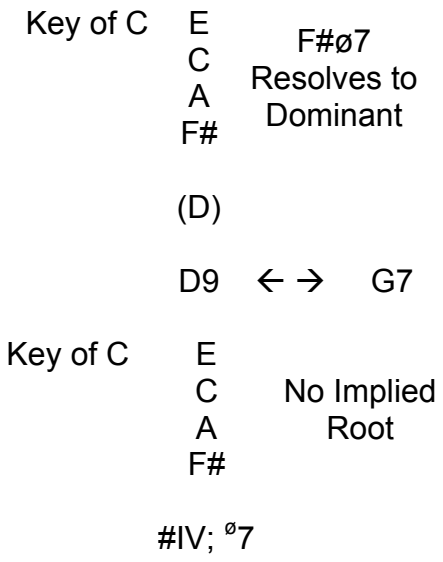
2 If bass progression is forthright it can give the ø7 chord a degree of independence

- A departure from established progressions may achieve this
  - : Difference in the resolution of chord members allows this
  - : Note that the lowest member of ø7 is not a root but the 3rd

	C	implied
G	G	Plagal
Eb	Eb	Root progression
C	A	
	(F)	(implied)
I	[IV]; ø7	

- ø7 quality if frequently found on the chromatically raised 4th degree of the scale
  - : Implied root is the supertonic
  - : Generally resolves to the dominant
  - : If it does not the ø7 quality has 'loosened' some of its dominant ties

- When this happens the ø7 chord can serve to remove any tonal identity
- Indicated by ø7 place next to roman numeral denoting actual bass note



E. THE AUGMENTED 6TH CHORD AND ADDED CHORD MEMBERS

1 Another type of leading tone chord

- Not built on 7th degree
- But raised 4th
- Three variations (Italian, German, French)
  - : Each contains the two chromatic tones which neighbor the dominant tone
  - : Their progression leads to the dominant
    - Perhaps through the I^6_4
    - Then on to complete cadence
- As upper chord members are added to Aug 6th chords they lose their special characteristics that distinguish them in the *diatonic* literature
- Frequently referred to as dominant sounds but usually for different reasons than those which will show their 'merging' into the dominant family
  - : The Aug 6th expanded overtime by degrees
  - : Today the Aug 6th has been 'swallowed' by the dominant function

2 Symbol

- #IV represents the chromatically altered (raised) subdominant
  - : Remaining tones shape into a triad formation
  - : But not heard as R / 3rd / 5th

- $\frac{6}{}$ is derived from figured bass

$\frac{6}{}$ For Italian 6th which is a triad

$\frac{6}{5}$ For German 6th which is a 1st inversion of a 7th chord

$\frac{6}{4}{}_{3}$ For French 6th which is a 2nd inversion of a 7th chord

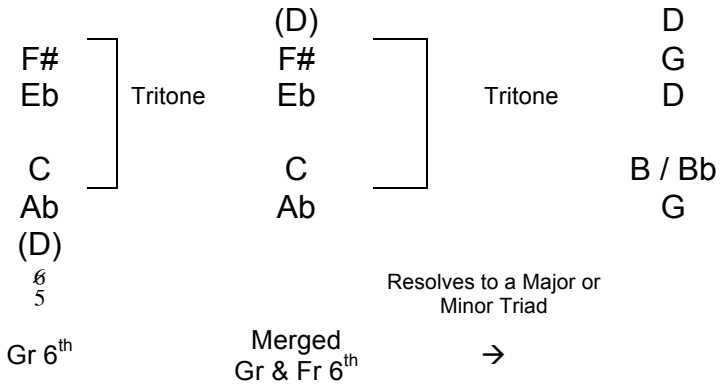
3 Resolution

- The French 6th contains the Supertonic as root

Key of C

F#		C		B
(D)	← Inverted →	F#	← Resolves →	F
C		Ab		G
Ab		D		D
$\text{II}\frac{6}{4}{}_{3}$		$\text{II}\,{}^{7}_{\flat 5}$	← Dominant With b5	$\text{V}\,{}^{4}_{3}$

- If French 6th & German 6th are merged
  - : The tritone binds the two possible roots together
  - : Leads both to the same resolution



- The tones which may be added to the Aug 6th minimize the characteristic identity and fuse them into the dominant family
- Aug 6th chords are forms of a leading tone chord
  - : This leading tone is the chromatic neighbor of the dominant *not* the tonic
  - : In diatonic passages it employs the 'implied' parent tone of the supertonic chord
  - : In chromatic passages the same relationship is 'inferred' but on a different degree of the scale

VII MODERN APPLICATION

A. GROWTH OF PREVIOUS CHORDAL MATERIAL

1 Rhythmic & melodic inventiveness

- Irregular concepts of motive
- Irregular concepts of phrase construction
- Incorporation of changes of meter

2 Expansion of range and interval within a melody

- More leaps
- More major 7ths
- More stressed appoggiatura tones

3 Utilization of all quality 7th chords and their harmonic extensions

- Pure dominant qualities stylistically represent an earlier era
- Chromatic alterations and an application of the more infrequent quality of 7th chord
- Provides an austere but not necessarily harsh form of harmonic experience

4 Fewer restrictions on tone resolutions

- Resolution of upper chord members is frequently delayed
- Sometimes abandoned in the line itself
  - : Wider leaps of this idiom promote a non-resolution of these tones
  - : In good musical writing movement of these tones can always be traced showing the movement

5 Use of unusual root progression

- Evaded progressions
- Mediant or plagal root movements

6 Incomplete chord formations

- Frequently supports an agile melody
- The bass may secure a root tone then proceed without fulfilling the quality of the lower triad or 7^{th} chord which may produce a feeling of openness

7 Inversions

- Instead of continuous root connections
- Produces a more contrapuntal style

8 Harmonies for dissonant purposes

- Musical growth of harmonies produced a search for increased dissonance
- Purposeful dissonances are employed
- Increase of overall tension

2 IMPRESSIONISM

Composers explored new scales and harmonies
New techniques of orchestration
More tone poems than symphonies
More songs than sonatas

I MODAL INFLUENCES

A. MUSICAL TECHNIQUES OF IMPRESSIONISM

1 Very different from the Romantic Style

- Scale is the structure or organization behind both melody *and* harmony
- This is substantially changed from the Romantic Period
- Here lies the recognition and understanding of the new sound

2 A return to the old modal scales

- Conventional key signatures were retained
- The modal scales were formed by chromatic alterations of the tones of the diatonic scale
- Did not restrict their use to the rigid formulas of the past
  - : Added these to the chromaticism already achieved
  - : Provided new melodies and enriched harmonies
  - : Combined with 'fresh' orchestration
  - : Created a completely original and intriguing style

B. TO DETERMINE MODE

1 Identify the rhythmically stressed tones around which others revolve
2 Organize tones in scale wise order around this tonic (called 'final' in modal terminology)
3 A secondary tone of strength may be the dominant capable of receiving melodic stress equal to that of the tonic

- Mode need not use all of its scale members to achieve recognition
- Starting and ending tone of the phrase are not necessarily the tonic or the dominant

4 Each mode has a particular characteristic that contrasts it with the major and minor scales

5 Not all melodies will fit a specific mode

- Many will add chromatic tones and still retain the modal 'flavor'
- Rarely will entire composition fall into a mode
- Generally the theme or just the main motive will provide the new color and setting for the piece
  - : Development of the theme continues with full resource of all chromatic elements
  - : Focus on mode in melodic arrangement
  - : Bass may help identify the tonic
  - : Harmonization may be free just as in Bach chorales

6 Frequently the melody alone will not give away its modal application

- Tonic may be recognized through total harmonic structure
- Harmonic structure focused on the bass will provide modal conviction

7 Melody may suggest one mode and the harmony another

- Generally merge in favor of mode that is provided by the harmonic background
- Melody can be so strong as to demand its own recognition (if only temporary)
- Fluctuation between roots of the minor and relative major is a modal characteristic and not uncommon
- Chromatic tones may be added to a modal melody without destroying the original modal feeling

C. MOTIVIC CONSTRUCTION

1 Melodies in the Impressionistic style are frequently sporadic in concept

- Contrasts with the long thematic continuity of the Classical or Romantic conception
- Phrase forms are made up of these motivic units separated by measures of colorful background

2 Rhythm sometimes pauses while the harmony provides a restlessness with clusters or whole tone effects

- Phrase may continue by sequential material or move into new melodic thoughts
- Total rhythmic effect is one which lessens the rigid movement of pulse but does not upset its underlying motion
- In songs this sporadic motivic conception is frequently heard in a recitative style of vocal writing (text of poem is given a setting approximating a prose style)

Scale ←→ Mode Comparison

			W		H		W		W		H		W		H	
D	Harmonic minor	D		E		F		G		A		Bb		C#		D
D	Dorian	D		E		F		G		A		B		C		D
			W		H		W		W		W		H		W	
										dominant						

			W		H		W		W		H		W		H	
E	Harmonic minor	E		F#		G		A		B		C		D#		E
E	Phrygian	E		F		G		A		B		C		D		E
			H		W		W		W		H		W		W	
												dominant				

			W		W		H		W		W		W		H	
F	Major	F		G		A		Bb		C		D		E		F
F	Lydian	F		G		A		B		C		D		E		F
			W		W		W		H		W		W		H	
										dominant						

			W		W		H		W		W		W		H	
G	Major	G		A		B		C		D		E		F#		G
G	Mixolydian	G		A		B		C		D		E		F		G
			W		W		H		W		W		H		W	
										dominant						

			W		H		W		W		H		W		W	
A / A	Natural Minor / Aeolian	A		B		C		D		E		F		G		A
										dominant						

			W		H		W		W		H		W		H	
B	Harmonic minor	B		C#		D		E		F#		G		A#		B
B	Locrian	B		C		D		E		F		G		A		B
			H		W		W		H		W		W		W	

Universally discarded due to tritone (B → F / F → B

			W		W		H		W		W		W		H	
C / C	Major / Ionian	C		D		E		F		G		A		B		C
										dominant						

II INFLUENCE OF MODES ON HARMONY

A. INFLUENTIAL TO IMPRESSIONISTIC STYLE IS THE EFFECT OF MODES ON HARMONIC PROGRESSION

1 Changes between Chromatic and Impressionistic harmony

- Lack of leading tone
- Triad qualities relate to mode rather than diatonic major or minor
- Root progressions utilizing the full scope of chromaticism
- Resolution of the 7^{th} chord in non-traditional ways
- Vague sense of key due to the non-diatonic effects

2 Lack of Leading Tone

- One of the most prominent factors that destroys a diatonic relationship
  - : Removes the sound of dominant to tonic relationship
  - : Lessens the frequency of the dominant to tonic progression within the phrase
    - – If mode does not contain that 1/2 step interval (LT → Tonic) composition should not stress a formula unidentified with the original scale
    - – Debussy in seeking something new avoided the patterns that would mix styles
    - – Requires a flexible interpretation for analysis
      - + Avoidance of diatonic progressions
      - + Lack of leading tone resolutions
- Classical harmony gravitates around the dominant to tonic formula
  - : The leading tone resolution from both the major and minor scales
  - : Only one mode has the half step built in between 7^{th} & 8^{th} step is the Lydian mode
  - : Majority of modes do not clarify their tonic by raised leading tone
  - : Sound of modal progression may become 'fused' resulting in a loss of a specific modal identity
  - : Chromatic alterations erase a particular mode
  - : No composition adheres strictly to one mode for any length of time
- Analysis
  - : Use roman numerals to designate *areas* of tonality and relationship with one another
  - : In transitional areas where key center is elusive indicate roots by letter name and quality
- The non-diatonic chordal movement is a part of the flavor of impressionism – a continuation of chromatic flexibility

B. TRIAD QUALITIES RELATING TO MODES

1 Modal scale tones create a unique combination of triad qualities

- The VII modal chord vs. the VII raised leading tone chord
- Other triads create a refreshing individuality in their movement around the tonic

2 All modes produce some subtle changes to the diatonic scale

- As a result of these different scales, cadences have lost their labels
  - : Can only be complete or incomplete
  - : The melodic and rhythmic elements in a phrase dictate the cadence with more certainty than does the harmonic progression
- In Contemporary writing the completeness of a cadence depends on motivic satisfaction of a certain theme or section of a composition
  - : The vertical component parts of a chord have little to do with it
  - : Rather a series of harmonic structures can prepare the listener for a cadence
    - – Felt by contrast to what has occurred before
    - – Mostly simply it is a fact of *rhythmic* pause
- A complete cadence can be felt on the sound of a dominant 7^{th}
  - : Acceptance in contingent upon the structural preparation (motivic & tonally) that precedes the pause
  - : This is regardless of its vertical sound at the moment

The term semi-cadence should refer to a pause 1/2 way within the theme, not to dominant chord associated with the classical style pause

C. ROOT PROGRESSIONS UTILIZING THE FULL SCOPE OF CHROMATICISM

1 Not limited to those arising from the modes

- Chromatic additions and mixtures of modes must prevail if a composition in not to become boring
- By removing classicist limitations the chromatic scale in the Impressionistic period (as well as now) provides a new uninhibited outlook

2 Root progressions around a tonic

- Includes the possibilities of *all* 12 chromatic tones functioning as roots – leads to the 12 tone scale
- Growth within the Impressionistic period
  - : Triad alterations to any quality
  - : Cross relations of tones introduced in chord movement
  - : Expanded use of root movement (including up a 3^{rd})
  - : Stepwise movement downward – as a result of modal textures

D. TONALITY

1 Key center is not obvious at cadence (as in classical period)

- Classical period tonality (for the most part) is based upon the major and minor scale
- Classical period emphasizes tonality at cadence points

2 Once enough alterations take place can no longer hear accustomed progressions

- No single chord takes unquestioned status as a tonic
- Lose foothold on a solid diatonic key center
- Becomes a state of 'possible' or 'probable'

3 Does *not* necessarily mean that they have completely lost tonality or have become atonal

- Strength of mutual closely related keys
- Actually not a lack of tonal recognition but rather a *lack* of diatonic recognition due to the absence of diatonic formulas

E. ANALYSIS

1 Concentrate first on the whole piece
2 Divide into large sections and denote the cadential areas of these large sections
3 Recognize the over riding tonality of these large parts
4 Next see what relationships occur in the smaller cadences – correct to think of cadences on any tonal degree used
5 These steps provide a unity that is woven about the entire tonal form with the chromatic passages simply leading toward these more significant structural points

III UNRESTRICTED MELODIC MOVEMENT OF ALL CHORD MEMBERS

A. WITH THE IMPRESSIONISTS INDEPENDENCE CAME TO ALL 7TH, 9TH, AND HIGHER NUMBERED CHORDS

1 No longer bound by diatonic resolutions

- Diatonic root progressions were not emphasized
- New chordal sounds
- Chromatic root movements

2 This permitted melodies to free themselves from earlier styles

- Diatonic rule 7th must resolve down
- Created as a descending passing tone or a suspension with Palestrina & other 16th & 17th century composers
- Baroque started using the 7th as a appoggiatura which then began to gain more and more rhythmic strength – but did retain the downward resolution

3 The 9th followed suite

- True 9th chord was resolved by harmonic change to a new chord root
- Classic and Romantic school still preserved its downward tendency for the most part

4 Impressionists threw aside these conventions

- 7th & 9th can resolve up
- Move as freely as any other triad member
- This new treatment is also part of a new harmonic scheme

B. IMPRESSIONIST APPLICATION

1 When writing a V7 ←→ I cadence the 7th resolved downward in accordance with traditional practice
2 Difference lies in not concentrating upon conventional progressions
3 Rather explored new patterns through modal and chromatic means

- Most frequently associated with harmonic movement of consecutive dominant quality chords
- Roots evade the customary cadential progression (up a 4th)

4 Many chords are built with chord tones higher than the 7th

- Allows for greater freedom for the 7th itself
- Listener's attention is focused on the activity of the other chord tones

5 Melodic importance can center on the 7th without the listener being aware of the resolution

- If 7th moves downward to a non-harmonic passing tone
- Tension created by the 7th tone remains
- Expects to be resolved at the next chord change

- With compact motive and within a single harmonic color the 7th tends to disappear rather than resolve
- A motive which ends as a 7th chord
  - Due to separation of end of one musical thought and the beginning of another 7th may appear as a stationary chord member
  - No resolution is necessary

6 Minor 7th chord heard in conjunction with a modal melody may use the 7th in any melodic design

7 Unrestricted melodic movement for the higher-numbered tones is not limited to dominant quality harmonization

C. PARALLELISM

1 All chord members can move by parallel motion

- Affects melody harmonization as well as root progression
- Effect on melody is to minimize its 'solo' quality
  - Supporting voices have the same linear motion
  - Forms a unified block of harmonic color
  - The highest voice emerges as the 'melody' simply by being on top
- Lowest voice loses role as provider of harmonic root movement
- Emphasis is placed on the base
  - By rhythmic accent
  - By contrary motion formed as it separates from the parallel motive or phrase

2 Parallelism does not give equal values to all the chords which appear to be constructed in the same way

- Where the bass is parallel to the melody rhythm and setting of the entire phrase or composition rule over the harmonic emphasis
- Bass may shift freely between its normal harmonic role and a new melodic function caused by parallelism

3 Cautions

- Extensive parallelism can negate key associations
- Can retain feeling of parallelism without being chained to its use
  - Contrary melodic treatment with parallel harmonic movement
  - Limiting parallelism to one setting of treble chords against which a normal contrapuntal line is heard
- Parallel voicing is merely part of a melodic harmonization and *not* part of a complete parallel design
- Orchestration can bring out the parallelism of one choir heard against a contrasting line in another section of the orchestra
- Can be used with triads, 7th, 9th, or other combinations
  - Valuable if it is not overdone
  - Must not appear accidental as if by incorrect voice leading

- Degree of Parallelism determined by composer and the particular idea being expressed
    - Generally one full phrase in parallel is too much
    - Connections of two or three chords too little
- Parallelism must arise as a demand of the motive as if it could not be expressed in any other shape
    - As one total thought
    - Never as a last resort

IV The Tritone, the Whole-tone Scale, and Whole-tone Dominants

A. Definition and history

1 Tritone is an interval of 3 major seconds
2 Spelled either as an Aug 4^{th} or Dim 5^{th}
3 Original definition limited term to the Aug 4^{th}

- In medieval times this interval was called 'diabolus in musica' (the devil in music)
- It was forbidden at all costs
- After centuries of careful resolution it reached the point where the Impressionists

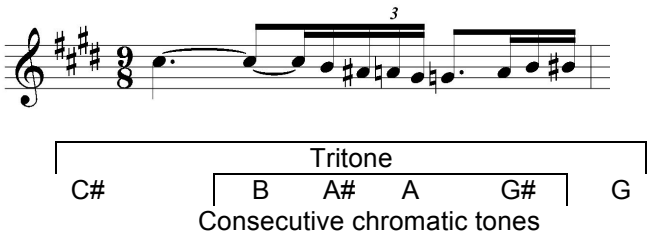
: Delighted in its beauty
: Gave it a new position of prominence
: Influenced melody and harmony in a completely new manner

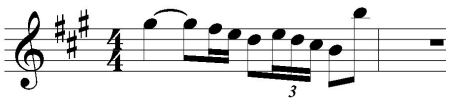
B. Characteristics

1 The sound of the tritone governs the motive in its shape

- Allows any combination of chromatic or diatonic tones to be incorporated in the melody
- Such use of a prominent tritone in a motive tends to

: Avoids a keytone
: Avoids a stable harmonic setting
: Is frequently desirable for a composer in masking a key center in an opening passage (use in a final cadence is unusual)





Tritone
G# F# E **D** E **D** C# D D
Hovers around the G# - D Tritone

2 Use in Root Progressions

- Frequently a substitute for the ‘real’ dominant
  - : Misses the traditional leading tone resolution in dominant to tonic progression
  - : Substituting two tones a ‘fair’ substitution

D#	Parallel	E	F	Contrary	E
A#		B	D		
E		E	B	Parallel with D	C
C#	Contrary	C	G		G
F#		G			
#IV13 7		I6 4	V7		I6 4

3 As a Tritone Dominant

- When functioning as the lowered dominant of the key
- Used as a dominant embellishment
- Otherwise tritone interval can be used as
  - : Connecting any chromatic roots
  - : With chords of any quality
  - : In Impressionistic style, dominant qualities predominant

4 Tritone if filled in exclusively with 3 whole tones (that name implies) becomes half of the whole-tone scale

- Forms only two different whole-tone scales due to the equidistant intervallic structure

		Tritone				
C	D	E	F#	G#	A#	C
D	E	F#	G#	A#	C	D
F#	G#	A#	C	D	E	F#
Eb	F	G	A	B	Db (C#)	Eb (D#)
D#	E# (F)	F## (G)	G## (A)	A## (B)	B## (C#)	D# (Eb)

5 With whole-tone scale the lack of ratio or formula of intervals pointing to the tonic prevents recognition of one central tone

- Repetition of starting on a tone and stopping on its octave *might temporarily* indicate a resting tone
- This would need to be supported by *other* musical factors in the composition – *not* by scale itself

- The tritone cuts the octave in half and leaves the listener wondering which tone is the root and which is the lowered fifth (no resolution to this dilemma)

6 Factors of rhythm and melody contour must be considered in the determination of roots in any harmonic structure

- The tritone & whole-tone scale add to this complexity
- The sound produced by equidistant intervals is unmistakable
  - : Becomes valuable because of this distinct recognition
  - : Only the labels attached to that sound may be puzzling

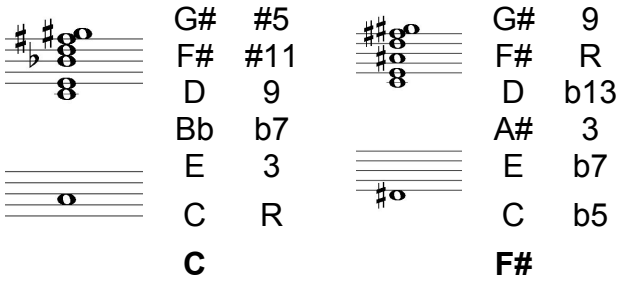
C. WHOLE-TONE DOMINANTS

1 Whole-tone scale partly responsible for creating the chord

- Each tone of Whole-tone dominant if placed in scale order *must* form all or part of a whole-tone scale
- Framework of this sound is the augmented triad or dominant 7th with either b5 or #5
- The remaining tones that intervene in major 2nd intervals can then be placed anywhere in the vertical structure

2 Whole-tone dominant with recognized root tone

- If Root is clear added tones will form the Ma 9th, #11th, b13th (Enharmonic to #5th)
- A clearly defined name is necessary as open structure with the defined root become ambiguous



Whole-Tone Scale
C D E F# G# A#(Bb) C

- Use whole-tone dominant to represent a chord in which all members are included in a whole-tone scale

  : Root may or may not be recognized
  : Names of specific chord tone members in optional
  : May be complete with all 6 members or incomplete
  : Ear does not recognize easily the exact number of tones because of the equal ratio of the intervals

In earlier periods the #5th would have demanded resolution to the next chord tone. Here, if a whole-tone sound is the aim, it is not required

- In selecting proper notation for whole-tone dominant choose the spelling that is most appropriate

  : Chromatic tones connect known chord members or diatonic scale tones and are spelled within that reference
  : Melodic direction is a contributing factor but not to the exclusion of the tonal setting

- The root of a whole-tone dominant is frequently recognized *only* after a resolution of the chord is heard

  : If movement of the familiar cadential progression of up a 4th down a 5th is heard the ear will follow the resolving tones and then the root
  : Works only with dominant to tonic progressions (or dominant embellishments)
  : Any other progression would not employ the necessary tonal tendencies that uncover the root

    – One way is to focus on the tritons of the chord and see which function as 3rd & 7th of dominant chord
    – Remember the 3rd can resolve down to the 7th as well as up to the Root

3 Whole-tone dominant without audible root tone

- Reason for ambiguity

  : Lack of prominent bass tone
  : Melodic movement in the bass register
  : Abnormal order of intervals in vertical structure which negate the strength of the overtone series
  : Conspicuous use of tritone (melodic or harmonic) in which either tone may claim root status
  : Absence of the cadential root progression with the tonal movement (before or after) which would recognize the root
  : Quality of the whole-tone *sound* may be entire aim

    – Not the recognition of the root
    – Here the clarity of resolution in harmony of melodic line provides the contrast to the relentlessness produced by the whole-tone dominant sound

- Conflict between melodic design and its harmonization
  - In deciding root favor can be given to a solid vertical structure
  - If not, the strength of the intervals in a horizontal line
- If these two factors do not agree in suggested root an indeterminable result occurs
  - The tritone is the problem if vertical & linear movement stress different but equally important tones
  - Result is a whole-tone dominant chord whose root may be heard in the melodic design
    - Result is a whole-tone dominant chord recognized by an unexpected harmonic resolution
    - Or left unclear due to conflicting stresses of melody vs. harmony

D. CLUSTERS

1 Definition

- Several adjacent tones mainly major or minor 2^{nds} sounding simultaneously
  - Purpose is *not* to establish harmonic movement for a melody
    - Rather provide a colorful block effect
    - But in itself is non-committal as to specific harmony
  - A cluster drawn from a whole-tone scale is similar to a whole-tone dominant with a tight spacing of intervals

2 Characteristics

- Range cluster may cover is dependent upon instrumentation
  - In symphonic setting range could span several octaves
  - Pianists would use entire left or right forearm or padded stick to set length
  - Cluster of a few adjacent tones is more common with even two tones called a cluster under certain circumstances
- Can be produced by striking all tones simultaneously, by arpegginated movement which is then held, by trills in split ensemble on two different notes a minor or major 2nd apart

3 Use

- Clusters of two or three tones used as a harmonic interval rather than chord
  - : Part of a melody in which one of the notes is part of the harmony
  - : While the adjacent tone is added only for color, dissonance, or even humor
  - : Becomes a pattern in the musical idea
  - : Must last at least a motive or phrase length to be effective
  - : Sometime a chord may appear to be a cluster but when analyzed is actually a higher numbered chord in close position
  - : Composer may want sound of cluster but may still use chord tones to achieve it

E. ADDED TONES OF THE 6TH & 9TH

1 Harmonic expansion during the Impressionistic period included the use of the 6th

- Actually a 13th but called 'added 6th' as most frequently used directly adjacent to the 5th of a triad
  - : Generally a tonic triad
  - : As a chord member of a 13th this tone would be heard above a 7th chord
- With today's complicated harmonic sounds the 13th likely not to appear solely with a triad
  - : Tends to make term added 6th a cliché
  - : Belonging to a style of harmonization popular during the 20's

2 6th as member of a cadential 'I' tonic triad could never be misconstrued as a 7th chord member

- Added to other function apart from the tonic the active propulsion inherent in these triads would not permit the ear to separated the added tone from the normal activity of the 7th chord
  - : The added 6th in these instances would be negligible in terms of function of the sound

D B G		A G E C		G D B	Leads to I or V Chord
I	→	IV	→	I	
D B G		A G E C		C A F# D	
I	→	IV	→	V	

: Added 6th when adjacent to 5th of the triad may be heard as a cluster and would imply a non-significant harmonic activity

3 The 9th may be heard as an added tone especially when combined as a cluster

- Appear with tonic triad or its stationary equivalent
- *No* 7th can be present if it is to be called and added 9th
- Adding a minor 6th or 9th to a major triad is more apt to result in a cluster sound than as a recognition as an added tone

: Added tones to minor triad is possible but not heard very frequently in serious writing

: Minor triad by being an alteration of the fundamental overtone series does not have the same solidarity as a major triad

– Added tone might switch it resolution from an inactive triad to one which might need some further resolution
– The degree of activity heard would depend upon context

Aug 4th requiring resolution	**A** G **Eb** C	**A** G **Eb** C
	Cmin in root or ø7 1st inversion	

: Restricts use of chord to contexts where the minor triad root is inflexible

4 Inversions of added 6^{th} & 9^{th} chords would result in loss of a solid root footing

- Added tones would not be heard as such
- In complex situations added tones would not be singled out for separate comment

5 Pentatonic scale can be the influencing factor behind the added 6^{th} when used in a melody (may also stress an added 9^{th})

3 THE RISE OF MODERN DISSONANCE

I FREE COUNTERPOINT AND THE TWELVE-TONE SCALE

A. RHYTHMIC VIGOR AND CONTRAPUNTAL INDEPENDENCE

1 As the Impressionistic style waned in the latter '20's a trend toward greater dissonance started throughout Europe & America

- Writings of Stravinsky, Prokofiev, Berg, and Copeland show each composer's individuality but added dissonance is a common thread
  - : Smoothness of modal textures and dominant qualities give way
  - : Vertical structures whose added tones deliberately clash with other chord tones
  - : Experiments in polytonality
- New excitement in Rhythm was achieved by increased use of changing metric designs and complex rhythmic divisions
- A Contrapuntal style evolved which stresses complete independence of melodic lines
  - : Melodies move against one another without regard to former harmonic dictates
  - : Intervals formed are not diatonically controlled
    - – Have complete chromatic freedom
    - – As a result of this independent function the concept of the twelve-tone scale is recognized
- Preponderance of 2^{nds}, 7^{ths}, and tritons contributed to a changing pattern of harmonic sound
  - : Listener does not hear harmonic movement by clear vertical progressions
  - : Attention is drawn toward one central tonality within which the contrapuntal lines create the fluctuations of dissonance
  - : This becomes the basis for the new harmonic sound
- This contrapuntal impetus influenced all composers alike
  - : Concentration on melodic structure and contour becomes the guide for listening
  - : It is hearing of movement of pitch rather than movement of complete harmonies

2 Movement toward complex contrapuntal texture was gradual traced through the rise of modern dissonance in all aspects

- Melodic advances through the use of the twelve-tone scale
- Harmonic growth resulting from the freedom of the scale

This style over powered and snuffed out Impressionism

- From experiments in polytonality
- Chords containing conflicting chord members
- Essential new rhythmic strength reflecting a changing attitude and temperament within the creative impulse

: This new vigorous style took root among the young composers in the '30's
: Was 'spearheaded' by Prokofiev, Bartok, and Stravinsky

B. CONSERVATIVE MODERN IDIOMS

1 Tonality fused between modal and diatonic influences

- Result of a flexible counterpoint
- Mildly dissonant intervals contradict a single strong diatonic tonality
- Does not deter a more general formal setting
- Such ambiguity is usually temporary but there is never an obviousness

2 Adherence to specific intervals during the course of a motives development

- Taken to the extreme it can stifle musical expression
- Schoenberg's development of the 12 Tone Row (which completely retains an intervallic formula) also contributed to this development

3 Free Counterpoint

- Permits the use of the use of dissonant intervals no longer bound by classical conventions
- Controlled by the demands of each particular phrase with a free choice of any of the 12 chromatic tones for either melodic or harmonic purposes regardless of initial tonality

C. THE TWELVE-TONE SCALE

1 Surrounded by terms of atonality, tone-row, 12 Tone System and Schoenberg – these are by-products of the scale

- Twelve tone scale itself is nothing more than the chromatic scale
- In application it differs so noticeably that it easily separates Modern Music from all of its predecessors

During any evolution of art the meaning of words become confused in attempting to define changing techniques

2 Historical Perspective

- Out of the modes arose the diatonic major and minor scales
- The chromatic scale added half-step embellishments to the diatonic scale
  - : Diatonic key signature is preserved
  - : Raise or lower the tones of the scale to form correct embellishments to the diatonic scale
  - : Usage demanded these resolutions so the *chromatic scale* indicates the correct use of all embellishments
- The twelve-tone scale indicates the independent use of all of the chromatic tones
  - : With *no* demand for specific resolution
  - : Tones are not subordinate to a diatonic scale and so may be spelled *in any way logical* to a particular instance
  - : There may be still a tonal center or tonic
    - – More conservative compositions in the modern style can still retain some diatonic principles
    - – Compositions which veer sharply away from establishing any tonal center are generally organized by a twelve-tone row
- Arnold Schoenberg laid the foundation for twelve-tone row organization (called his procedure a “Method of Composing With Twelve Tones Which Are Related Only With One Another”

3 Application

The ear does not retain diatonic background when modern skips are present

Each melody must be judged individually

- Free choice of tones is indicative of the twelve-tone scale
  - : All tones can/are utilized
  - : But are not organized into a fixed pattern *indicative and necessary* in a twelve-tone series
  - : Can have a tonal center
    - – Starting & ending tones
    - – Rhythmic pauses/stresses at cadence points
    - – Rhythmic stress or anticipation
    - – Diatonic association with another tone
- A chromatic realization of a complete cadence (V9 ← → I) with a melodic leading tone
  - : Removes all intended independence of the melody
  - : Indicative of difference between use of chromatic scale and application of the twelve-tone scale
  - : Parts of melodic passage can have both diatonic association and twelve-tone scale concept

- Modern Melodic Characteristics

  : Utilize all of the twelve tones
  : Leaps of 7^{th} & 9^{th}
  : Outlining such intervals in the melodic contour by several skips in the same direction
  : Increased vertical dissonance

D. Independent Triad Technique

1 The freedom of the twelve-tone scale that provided melodic freedom can be applied to harmony

- Any triad of any color can progress from one to the other
- Need not be restricted to on triads
- Dissonance is *not* necessary as the simplest connection of non-diatonic triads will produce a modern flavor
- These are independent triads functioning *within* the twelve-tone scale (and cannot be forced into a diatonic framework)

2 This harmonic freedom is a logical outgrowth of the expanded root movement used by the Late Romantic and Impressionistic composers

- Romantics wove together distant tonal regions but *with* diatonic controls binding each area
- Impressionists expanded harmonic freedom largely as a result of *free* connections of dominant quality higher numbered chords (sounding like non-related embellishments)

  : Have own secure footing
  : May progress anywhere

3 Triads with their lack of compulsory chromatic direction become representatives of the twelve-tone system

- Called 'foreign' chords because they are foreign to the diatonic scale
- Do not function within the laws of the chromatic scale
- As independent chords they are actually members of the twelve-tone scale
- Their modernism is not in a dissonant vertical idiom but in the connection of unrelated triads

NB:

The Chromatic scale added half tone embellishments to the diatonic scale by raising or lowering the diatonic pitch to create these embellishments – correct resolution was a requirement – the chromatic pitches were NOT independent entities.

The twelve-tone scale had no such restrictions as each pitch is independent and requires no specific resolution.

The twelve-tone system is method of organization for the twelve-tone scale

II BICHORDAL WRITING AND POLYTONALITY

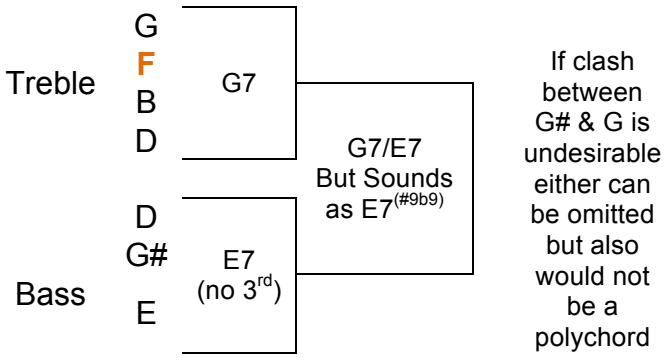
A. POLYCHORDS

1 Definition

- Harmonic vertical structure that simultaneously sounds the roots of two chords
- Extension of the Classical pedal tone
  - : Represents a strong bass *root* above which other chords move
  - : A bichordal structure may have the complete bass *chord* against which a treble chord of a different root clashes (no preparation of pitch is necessary for either chord
- By definition a polychord may have two or more roots
- Bichordal would pertain to a harmonic structure of two roots (only in very rare circumstances would a chord of three roots seem possible)

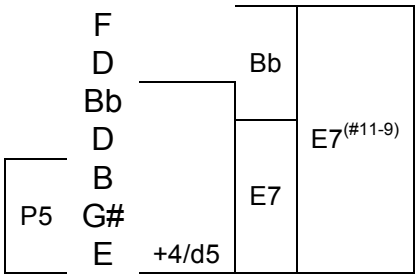
2 Relationship of roots in polychords

- With clashing triads a wide separation of range and a continuing pattern help to isolate each root
- Extension to the 7th in bass & treble will unite the treble tones with the bass root and create a higher numbered chord
  - : A treble triad placed over a 7th dominant in the bass again creates a higher numbered chord
  - : It is the 7th which binds the upper tones to the lower root to create the higher numbered chord

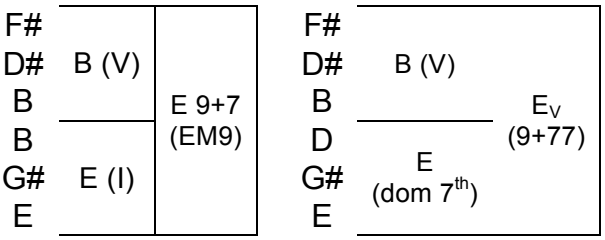


  - : Upper chord whose root is a minor 2nd below the bass note forms a Maj 7th – +9th - +11th
    - – Dominant quality is not harmed by addition of Maj 7th chord in treble
    - – Minor 7th *must* be in the bass

- Tritone relationship between Upper and Lower roots creates a very smooth blend of chord tones
  - : Even if both 5^{ths} are present, no conflict if the P5 is lower



  - : Here chord members combine willingly even while notation seems to be so opposite
- 'Dominant over Tonic' or 'Dominant over Dominant'



  - : Omitted 5th in lower chord (Edom7) helps separate the roots of upper and lower chord
    - Inclusion of the 5th will thicken sound
    - Inclusion of the 5th will not alter the complete chord
  - : If lower chord is minor it automatically loses the strength of the overtone series and generally results in a support of the higher root

Remember these sounds are devoid of established tonality

  - : Where dominant clashes occur judgment as to degree of desirable dissonance is made same a major triads

3 Summary

- A polychord is most readily heard when two triads oppose one another intent on separation of melodic ideas and range
- If a 7th links the potential polychord a separate identity for each root is unlikely
- A polychord of more than two roots is extremely rare

4 Polychords in melodic writing

- To gain a bichordal feeling there is more reliance upon the movement of sound than upon the use of isolated polychords
- Same principle that prompted the Classical Pedal Tone
  - : Once established as a chord member the Pedal Tone could then be held while other chords moved above it
  - : If the Pedal Tone is not first recognized within one chord or tonality a simultaneous striking of the bass note and upper chord might not result in the same double root connotation

5 Where polychords are effective

- Polychords 'thrive' on dissonance and clashing chord members
- Successful use depends upon their location both within the phrase and in the context of the entire composition
- Tensions created by polychords may be prepared by a gradual motivic agitation and abated by the return to a non-conflicting harmonic context
- This type of phrase utilizing polychords is so related to the structure of the composition that it *cannot* be used indiscriminately

B. POLYTONALITY

1 Definition

- The simultaneous use of two or more keys or tonalities
- Polychords will *of necessity* be present
  - : The reverse is *not* true
  - : Occasional instances of a polychord or short bichordal passage need not affect the single tonality in which they are present

2 Application

- The control of dissonance (increase & decrease) must be present in all phrases regardless of tonality
- If a polytonal affect is to be consistently maintained the dual harmonies would have to prohibit any merger of polychords into a single root chord

Tonality is created by the movement of sound

- Do to the ease polychords can lose their dual root identity a polytonal composition generally do include both single root chords as well as polychords
- Polytonality need not be expressed by a different key signature

C. Double Inflections

1 Definition

- Trend towards greater harmonic dissonance gave rise to chords which include two intervals of the same numerical distance from the root but of differing qualities
  - : Easy to recognize as notation includes both # & b accidentals with a natural sign as required (B & Bb or if re-written B & A#)
  - : Not as easy to hear as may not sound in same opposing manner as notation would suggest

Bb		**A#**		**Db**		**C#**
F		F		Ab		Ab
B	←→	B		F		F
G		G		D	←→	D
				B		B
				G		G
GV		GV		GV		GV
7 -3 +3		#9 7		-9 b5 P5		#11 b9 7
3rd				**5th**		

Both form of the chords are correct
Label would depend upon melodic
Context and Resolution of the notes in question

Resolution by Spelling

	PT			
Bb	**Ab**	**G**	**A#**	**B**
F		Eb	F	E
B		C	B	C
G		Ab	G	G
GV		AbVI	GV	C I
7 -3 +3 (V-10)		7	7 #9	+7 (5)
Key of C minor			**Key of C Major**	

To show the distinction between tones that function as -3 and one that is Augmented 9th (#9) symbol -10 can be used (b3 = -10) dominant symbol (V) includes M3 with b3 in higher octave

2 Application

- Bichordal passages frequently result in the notation of double inflections
  - : Double inflections of the 3rd and 5th are more commonly found in this idiom rather than 7th or roots
  - : When placed above a dominant 7th foundation they retain a structural force which cannot be destroyed by adding qualities
    - – Means the M3rd must be the lower one which allows the m3rd an equivalent placement #9
    - – If -3 is placed below the +3 the sound is extraordinarily harsh
      - + This harsh sound may be wanted on occasion
      - + Is not to be confused with the demand of harmonic fluctuation
      - + Use -10 symbol for this occurrence
    - – By same reasoning the P5 is the lower interval
      - + The P5 is frequently omitted in a dominant chord
      - + Avoids a double inflection without changing the harmonic content
      - + Omitted P5 results in a simpler sound and improves voice leading
      - + Inclusion of P5 thickens the sound and suggests a harmonic merging of tones rather than smoothness of voice leading
- Any double inflection will sound well if placed in a suitable melodic context

3 Summary

- Double inflections are the result of
  - : Bichordal passages
  - : Melodic movement that conflicts with the normal resolutions of higher numbered chords
  - : To preserve an over-riding tonality
- The notation is a matter of judgment

4 CONTRAPUNTAL WRITING

I BACKGROUND

A. HISTORY

1 Together with the growth of vertical harmonic dissonance a contrapuntal style evolved in which the movement of tones (not necessarily conforming to a chordal association) guides the tonal setting

2 Rather than having the melodic lines merge into a recognizable *harmonic* movement the listener tends to feel a greater independence amongst the contrapuntal melodies

- The tonality may seem vague especially if the twelve-tone scale is fully realized in all of the participating voices
- However whenever tones of several melodies coincide harmony is automatically formed moving together with the movement of the melodies

B. ANALYSIS

1 The analytical problem lies in the fact that the familiar traditional harmonic groups of tones are not present

- Newer combinations have replaced them
- Sounds merge which are 'incomplete' to the diatonic ear
  - : Solid major or minor tonic triads used to establish tonality in the parts is not present
  - : Taking the place of triads & 7^{ths} are intervallic combinations which create varying degrees of consonance or dissonance

2 Tonality is now heard when intervals of strength predominate either in a vertical formation or in the course of the melodic line

II LINEAR ROOTS

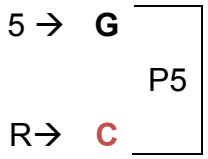
A. CHARACTERISTICS

1 Diatonic melodies rely upon a scale formation which a central tone arises as the key-tone of a major or minor scale

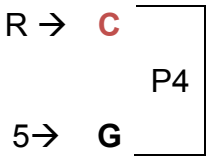
2 In compositions utilizing all 12 tones having equal status in a scale formation the key-tone or predominant tone must be identified by some other means

Here intervals exist as chord members

- May gain stature rhythmically by either metric stress or duration
- A melodic interval from which a harmonic association may be derived
- Intervals which form an important harmonic nucleus are P4 / P5 / M3
  - : Overtone series supports their standing
  - : These intervals if give prominence within the melodic line suggest a harmony built upon the parent chord
    - P5 is recognized as representing the lower tone of a root and upper as the 5th of a chord (unknown specific quality



    - P4 (as an inversion of P5) refers to the upper chord as root and the lower as 5th



    - M3 gives strength to a major or dominant quality chord and the inversion (m6) may represent the 3rd & root

- Beyond this point the intervals decrease in their value of harmonic suggestion
    - m3 could represent the 3rd & 5th of a major triad or as part of a diminished 5th context
        - Function as root & m3 of a minor triad is *not* automatic if the 5th is omitted
        - Harmonic function of a M3 does not require the supporting 5th in order to be heard as root & 3rd of a major triad or higher numbered chord
    - Interval of the M6 *may* represent a 5th and 3rd of a major triad
        - with implied root missing less certainty in this evaluation
        - m6 generally includes the root as the upper tone of a suggested major triad
    - Cannot be said that all P5 or P4 found in a melodic line automatically include a known root factors involving rhythm & placement of the intervals within the melodic contour have a bearing on the amount of emphasis received

3 Contour of a melody is made up of many groups of ascending or descending tones

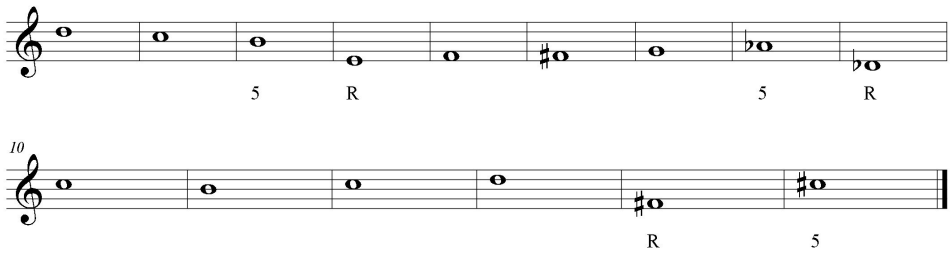
- Tones which occupy the highest or lowest position of each small 'peak' are more prominent than the connecting tones
- The change in direction that necessarily follows a higher or lower tone of a melodic *group* tends to stress such outer tones (the pitches linger in one's mind)
- These outer tones shape the entire contour of the melody
- These highest & lowest tones of each melodic curve have a *greater* harmonic association than the intervals formed within a succession of tones in the same direction

Linear roots obtained from P5 / P4 / M3

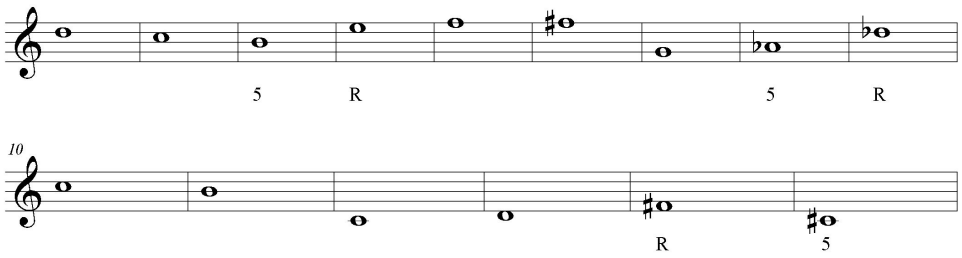
2^{nds} function as passing tones

7^{ths} (inverted 2^{nds}) remain as non-harmonic tones (functioning in different registers) may suggest a 7^{th} chord especially true if a dominant quality is outlined within a melodic contour involving the 7^{th}

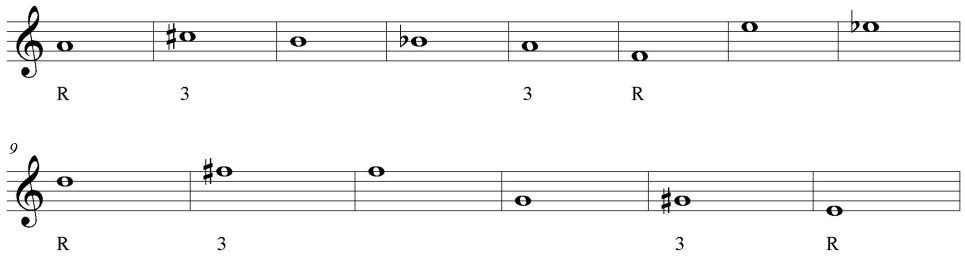
P5



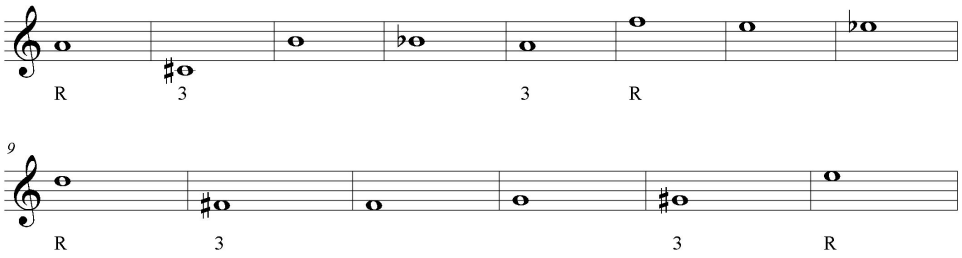
P4



M3



m6



Pg 303 Example 289 a-d

4 When a tone is established as a linear root it will remain prominent as long as the companion tones can be embodied into its chordal reign

- The tone cannot gain a new identity until all traces of the former harmonic grouping are removed
- Summary of the two principles controlling hearing of linear roots

: Prominence of the outer tones of melodic curve
: Lasting quality of a root once established

B. TRITONE AFFECTS ON LINEAR ROOTS

1 Retains its active tendency within a linear treatment

- As an embellishing interval it seeks resolution generally accompanied by one of the harmonically associated intervals such a M3rd
- If not immediately resolved the search for a stronger *stable* interval continues

: Tritone by itself has no root as each tone equally cuts the octave in half
: Harmonic association can be heard only by assimilation of other tones into the melodic contour
: The quality of the harmonic association (including the tritone) can *only* be an active dominant one

2 A succession of tritons creates unrest

- Motivates all phrase members to push toward a decisive tone
- Tritone becomes meaningful when given fulfillment in an inherent *demand* for resolution

C. DIRECTIONAL TONES

1 Characteristics

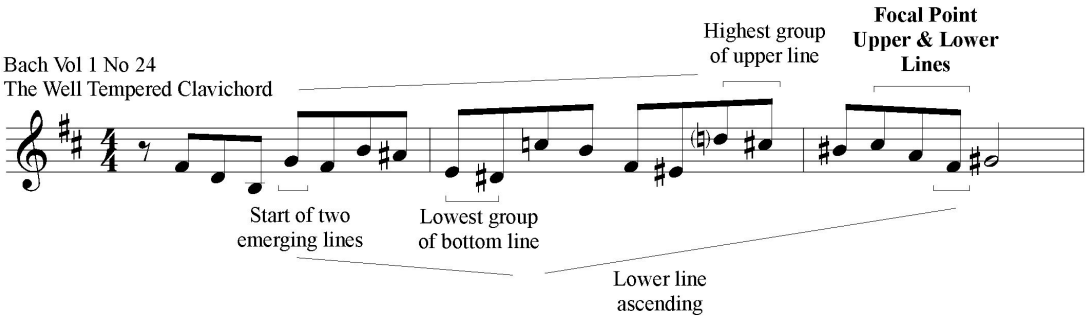
- Tonal contour

: In addition to the selection of intervals for good melodic writing the complete tonal contour of the phrase or theme *must* be considered (true for both Modern *and* Classical melodies)
: The many melodic curves that make up the total span of the theme have a directional control

– Lead toward a focal point
– Forms an overriding melodic arc or a comparable pitch design

: Possible to have two or more distinct lines in a single melody

– Called compound melody
– Tones leading the way in each in the melodic span are ‘Directional Tones’



Here the two tones making up the half step figures are really inseparable and both act as directional tones creating an upper and lower pitch contour

2 Movement

Resolution frequently suggests a necessary act of pitch movement

- Directional tones guide the overall pitch movement of the melody
- May move by 'resolution' in other registers
  - : Directional tone do not require any resolution
  - : They guide the melodic contour (frequently stepwise)
- Directional tones which change register expand a melody's range
  - : May shape the phrase differently in terms of overall contour changing the melodic emphasis
  - : Understanding of how directional tones may operate in many registers or octaves is helpful in appreciating many contemporary melodies
  - : Chief complaint of Modern writing is that it is not 'melodic' true these melodies cannot be sung readily if skipping about in range but wide leaps instrumentally should not evoke a totally unmelodic response

D. THE LEADING TONE (LEADING TONE TECHNIQUE)

1 A particular Directional Tone

Correct notation is an absolute to correctly identify tonal associations

- Recognized if upon the fulfillment of its half step resolution the tonality produced would be *meaningful* to the phrase or composition
- A modulation may be by a tone through melodic or rhythmic prominence is heard to resolve *as* a leading tone (regardless of register) establishing a new key center
  - : Dominant harmonies may be absent in this preparation
  - : All that is necessary is a prominent leading tone to accomplish modulation

2 Modulation

- Structural planning of pitch is necessary in order to create modulation (the large movement of tonal areas)
- The contemporary contrapuntal setting requires that more attention be placed on the tones themselves which control this motion rather than on a harmonic combination
- Traditional rule of modulation is ‘do not arrive prematurely on the root position tonic chord’
- Modern rule is ‘do not include the directional tones in a new section in the material intended to prepare it’

E. SUMMARY

1 Controls placed upon the melodic contour of a theme serve not only as a melodic guideline but also as the chief source of harmonic progression
2 Movement of tones (especially in a contrapuntal setting) substitute for chordal movement
3 Listener responds to the most outstanding pitches of melodic contour or derived from an intervallic strength heard melodically or vertically

III TWO-PART WRITING

A. CHARACTERISTICS

1 Analysis of Linear Roots and Directional Tones in a single line is carried over into Two-part Writing

- Done in the same manner with additional factor of the harmonic union of intervals
- All intervals retain their basic characteristics in terms of their consonance or dissonance (applied in a melody or a chord)

2 Intervals derived from a triad (especially major due to overtone series) are the strongest that evoke a harmonic association

- P5^{ths} as harmonic interval establishes the lower tone as root so strongly it will retain its tonal stature until another combination of strong intervals takes over
- Melodic designs utilizing this P5 structure can be realized as long as the upper tones do not form their own triad combinations
- P5 need not be the starting harmonic interval in order to dominate
- P4 & M3 follow the P5 in the strength of a root association
  - : P4 as an inversion of the P5 retains the root and 5th connotation with the root now the upper tone of the interval
  - : M3 inherits the root and 3rd relationship of the major triad
  - : But *not* wise to try to place these intervals in any order of priority as other factors intervene
- Vertical intervals which contain harmonic associations will contribute to tonal hearing more so than linear intervals

B. RHYTHM

1 Regardless of interval rhythmic stress dictates the hearing of harmonic versus non-harmonic tones

- Tonal strength is subjugated to rhythmic influences
- An established root at the start of a phrase will retain tonal strength negating both linear & harmonic influences of weaker beats

2 Harmonic Rhythm

- Chordal movement affects root determination in same manner as rhythmic considerations
- Appearance of complete chords on an unessential rhythmic occurrence may conjure a non-harmonic response
  - : Rhythmically the ear is not ready to receive harmonic associations
  - : Directional tones influence this also

- Duration of a root is equally affected by rhythm
  - : Once a pitch is established as a root the ear connects as many companion tones to this central root as possible
  - : A new root may take over only when the rhythmic pulsations suggest a change
  - : The new association or chord tones over rule the former root
- Strength can also be entirely linear and only comprehended by listening continuously

C. RANGE

1 All intervals which have a closer placement to the bass or lowest tone have a greater harmonic contribution than the intervals rising above

- Even the P5 if spread by octave expansion may relinquish its strength to the P4 or M3 in a lower location (enforcing a different root)

2 Range also affects the general statement that the vertical interval which contains a harmonic association will 'contribute' to the tonal hearing more so than liner intervals

- Linear writing will generally be in a higher register than that which denotes harmony

D. MELODIC ASSOCIATIONS

1 Does not affect the root recognition as much as does the bass line

- Melody tones may be largely non-harmonic
- This freedom of melodic choice extends to all of the chromatic tones
- With this unlimited scope the relationship of all melody tones to the root become less significant

2 If root is recognized matters little whether melody in a complex motive includes the Aug 11^{th} or Aug 9^{th}

- Chances are that sound of the tone would be gone before ear had chance to clearly evaluate such upper chromatic extensions
- Normal resolutions which would help identify them might not be forth coming
  - : Modern contrapuntal writing permits all intervallic leaps
  - : Requires no resolutions for any tones other than those which the composer hears and selects

3 Decision of which melody tone is harmonic rests largely on the recognition of the tones which strengthen the root

- : Root / 3^{rd} / 5^{th} / dom 7^{th} can be detected because they support a single root
- : Remaining tones are too far removed from the root to sound convincing as upper partials in a contrapuntal setting

4 Characteristics

- Melodic motive may suggest scale association
- Tones preceded by directional leading-tones gain more melodic emphasis than others and may contribute toward a root recognition
- The root of a major triad or a dominant quality grouping of tones will sound more clearly than the root of a minor triad which may appear to be present in the same passage

  : Based on overtone principles where lower partials produce a major triad
  : Sounds which merge into dominant qualities will be more outstanding than other root suggestions
  : Frequently these sounds become clear at the end of a motive group and then bind the other pitches within the dominant cloak

- Root progressions which suggest movement of the cycle of 5^{ths} (regardless of involved chord qualities) will stress the tones which form the essential intervals of that progression
- Intervals which may hamper a root association are a series of $P4^{ths}$ or unresolved tritons

  : Tritones

    – Tritone by itself cannot anticipate any tonality
    – The tones around the tritone will aid in the tritone's eventual progression and its actual role
    – Equally true in a harmonic structure or in a melodies passage
    – If the tritones are not given further melodic expansion they will simply sound as a group of active intervals without a root association

  : $P4^{ths}$

    – A series of linear $P4^{ths}$ (which don't require resolution) don not contain a strong central root
    – Stronger tone is the upper one (as inversion of $P5^{th}$)
    – Feeling of 'shooting' upward for root is present with each $P4^{th}$ interval

      + If at peak of the 4^{th} the root is the highest tone the confusion created is only temporary
      + This is rare though as lower tones still maintain their priority
      + They form some melodic association in which they contribute to a root manifestation

5 Summary

- Don't juggle the notes consider the value of the tones exactly as they progress

  : Which tones receive rhythmic stress
  : Which tones shape the contour of the melody and perhaps contain linear tonal associations

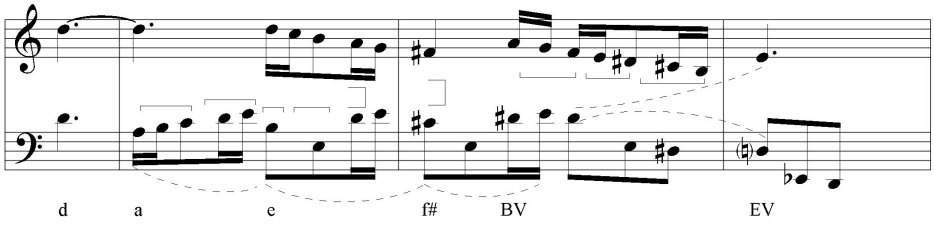
- Allow music to answer these questions
  - : Do *not* look for a root in every measure
  - : Connect the roots you hear
  - : Recognize that areas of transition are areas of tonal movement and are not intended to evolve root stability

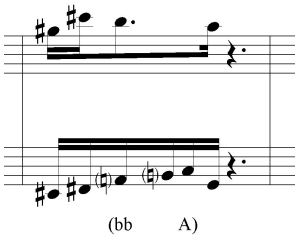
E. CONTRAPUNTAL ANALYSIS

1 Brackets are drawn between the strongest linear intervals and between the tones forming the vertical association
2 Dotted lines connect directional pitches
3 Letter of the root is indicated below the chord change even if the actual root tones does not appear until later in the measure

- This represents a single tone as a root whether the chord quality is known or unknown (as in case of incomplete combinations)
- A chord quality may frequently be presumed from the scale associations which precede it
- A complete letter denotes a major quality, small later minor quality
- Dominants are marked with "V"
  - : This "V" represents quality *not* necessarily the dominant scale association
- Inversions are not indicated
- Roots marked with "( )" parenthesis indicate passing harmonies
  - : Generally occurring on the rhythmically weaker beat
  - : Resulting from passing melodic movement

Enharmonic motion may be misleading as the eye does not immediately focus on the interval that's sounding





4 Areas which contain unstable harmonic motion are frequent in Modern writing

- Just as areas of embellishing diminished and dominant 7^{ths} are frequent in the Classical Period
- Due to the added chromatic mixture of tones the Modern Sound may not emerge with root identification (unlike Classical period's harmonic blending of chord members

5 Tritones help to create unstable harmonic areas

- Sometimes they merge with root tones adding their restless quality
- Frequently they agitate a melodic line whose harmony is formed by the tritone itself

F. NO RULES

1 In Modern contrapuntal writing all 12 tones are at the composer's disposal and able to be arranged in any manner he wishes

- Rules come about *after* the fact and are only manifestations of what has been done
- The writing of today has *not* been scrutinized with a predetermination for discovering "Do's" & "Don'ts" of Modern counterpoint
- Might be possible to detect certain practices within a particular composer's style

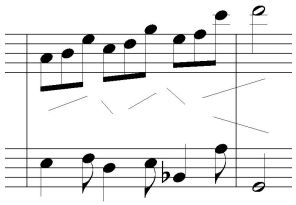
2 The Modern counterpoint is best approached by a comparison with former practices

- Basic principles of good writing has not changed
  - : Each part requires an undulating melodic contour
  - : A rhythmic diversity between voices aids in their distinction
  - : A harmonic selection of interval should be varied and changing between consonance and dissonance
- The difference in the contrapuntal rules is only applicable to the intervals themselves
  - : Today all intervals may be used
  - : Used on any beat
  - : Approached or left in any manner the composer selects
- Well written phrase contains a proper degree of dissonance and consonance proportioned to the demands of the specific areas of the phrase and the composition

3 Modern Privileges & Practices

- Dissonant intervals formerly limited to certain melodic uses may now be used without *any* rhythmic melodic or harmonic restrictions
  - : Dissonant 2^{nds} / 7^{ths} / 9^{ths} / tritone
  - : Consonant $P5^{ths}$ / $P4^{ths}$ / P8 / $M3^{rd}$ / $m3^{rd}$ / $M6^{th}$ / $m6^{th}$

- All dissonant intervals are most frequently approached by opposite or oblique motion
- Many dissonant intervals are also left by opposite or oblique motion
- Generally either the approach or the movement away from a dissonant interval contains a stepwise progression or common tone
- Parallel motion into a discordant interval may or may not be desirable depending on specific intervals and usage in the phrase
    - : One voice may move stepwise if a tonal combination unites the interval
    - : Wide range may be idiomatic (particularly with the use of instruments) permitting greater tonal associations within the parallel approach to dissonant intervals
- Discordant intervals particularly the M7th or m9th may be extremely harsh if preceded by a P8 or P5th and approached by parallel motion
- Where the phrase demands an intense dissonance these practices may be used
    - : Placement at each end of an insistent crescendo (a deliberate use of a harsh effect at a point of emphasis)
    - : Rhythmic figure which can lessen purity of a consonance
    - : Both contain an increased level of dissonance which could not be presumed when the intervals are stripped of the musical context
- Double infections approached by too consonant a selection of intervals are also generally ineffectual
- Awkward switching between a recognized major tonality and its parallel minor (or vice versa) within a phrase does not contribute to a smooth blending of parts
- Parallel motion may be applied to all intervals and is particularly effective if used for emphasis and contrast in a composition
    - : As contrast to imitation via contrary motion
    - : P5 / P4 / 7^{ths} particularly if used on weak beats can be though of as substitutes for the Classical use of parallel 3^{rds} / 6^{ths}
    - : Leaping with wider intervals a compound melody may appear to involve the voices entirely in the same direction when actually it is unfolding a larger contour of contrary motion



N.B.

The success of good contrapuntal writing is contained in the adherence to the stylistic demands set up by the initial ideas of the composition

A traditional flavor with a burst into contemporary usage is inconsistent and illogical

An excess of any one contrapuntal mannerism is apt to erase other musical qualities

Balance requires a rhythmic, melodic, and harmonic combination for a continuous blend of diversified techniques

IV Intervallic Structures in the Writing of Three or more Parts

A. Incomplete Chords

1 Principles which guide the understanding of 2-part writing apply to all other forms of composition (completely polyphonic or partly so)

- Compositions which (by definition) are considered homophonic nevertheless contain a contrapuntal movement between the outer voices
  - : Shapes a basic 2-part contour in which inner voices may contribute to a more defined harmonic concept
  - : In pure 2-part composition intervals rather than complete chord formations create the tonal movement
- When 3 or more voices unite the vertical intervallic combinations that may form are endless
  - : Positive placement of the P5th, P4th, or M3rd will produce a root tone
  - : Others may not be definitive and will function as passing harmonies
  - : With unlimited interval selection it is possible to recognize a root tone but may be contained among other vertical tones whose relationship to the root may be distant

2 Term 'chord' implies a diatonic merging of harmonious chord members

- In contemporary usage the term 'G chord' is incorrectly applied when the highest melody tones radically depart from the lower tertiary organizations of chord members
- A 'chord' permits identification of all chord members based upon the tertiary concept of harmonic organization
- An appropriate term for all vertical formations based upon an arrangement of *intervals* is Intervallic Structures

But root tone of 'G' dominates passage

  - : Includes harmonies which may or may not be centered around a root tone
  - : May contain as few as 3 or a maximum of 12 tones
- Intervallic structures containing only 3 tones may sound like incomplete chords (particularly when root is heard)
  - : Complete sounding chords may also bring forth only a root tone around which other harmonic members are massed (without regard to the traditional spacing of chord members)
  - : Both types are formed by the sound of vertically spaced intervals selected with or without a predetermined root

B. ROOT TONES

1 Root tones are identified by the harmonic associations produced by a 'strong' interval and by the concurrent melodic association

- 3rd voice expands procedure (simply) by involving more tones
  - : Results in a greater complexity
  - : May clarify some 2-part writing
- Root producing intervals located in the lower range (preferably including bass or lowest tones) are still likely to contain the audible root movement
  - : If P5, P4, or M3 is higher in the vertical structure *more* thought must be found on melodic association than on vertical formation alone
  - : A different melodic association emphasizes a different root tone
  - : P4 is also subject to the same as P5 as an upper interval separated from the bass tone by a wide, non-harmonic placement the melodic associations of the surrounding tones will affect the emphasis of the particular root tone
  - : M3 located in the upper portion of the intervallic structure the root relationship 'sways' with the contrapuntal thoughts that precede and follow (adding further intervals which may support a particular tonal setting

The ear can supply the expected sound rather than surmising an evaded chord that is also incomplete

- A correct analysis of root tones must depend upon an evaluation of the entire tonal scheme
  - : In many instances a positive conclusion is not possible
  - : Contradictory melodic forces may negate a strong vertical interval (creating 2 or more analytical theories

2 Analysis

- Don't insist on finding one solution
  - : Play the entire phrase or theme
  - : Consider the phrase cadences which are the final receivers of the pitch motion
  - : By understanding the goal certain prior elements may take on an added significance
  - : But all measures will *not* conveniently form positive root tones
- Intervallic structures of fewer tones are frequently more ambiguous than those which contain greater number of tones
  - : Root conflicts i.e. lower P4 heard together with outer voices forming a widespread P5
  - : The tonality in this instance may or may not be solved by the course of the melodic associations or by cadences

- Outer voices generally contain the main contrapuntal contour so they are likely to convey root associations
- Inner voices support rather than conflict with these lines
- Tempo & beat placement will affect hearing
    - A slower tempo will permit the hearing of secondary intervallic structures
    - Same logic can be applied to a strong beat

C. TONAL AMBIGUITY

1 Don't look for root tones in passages where tritones predominate (whether vertically or linearly)

- Such measures are transient and *must* lead somewhere
- Value of root recognition is in the comprehension of the tones which stabilize certain areas
- These are sounds which mold the entire composition and permit the hearing of modulation within highly complex compositions

2 Can think of transient elusive sounds as a series of passing tones of several measures of connecting material (not just one or two notes)

- Must have melodic strength
- Analysis should depict the directional tones as they lead toward stronger harmonic areas
- Use 'tri.' for analytical marking for measures that are under the influence of tritones

3 Many 3-part compositions contain a vague tonal feeling due to the preponderance of consonant intervals (particularly $P4^{ths}$)

- Tonal movement is generally not highly chromatic
- Lack of a strong central tone comes about through a mixture of modal influences
- With P4 the upper tone is suggested as a root
    - In a series *none* portray a clear root
    - Can combine with vertical intervals of M9 and melodic associations which also prevent one root from being recognized
- Incomplete harmonic sounds are typical of 3-part writing
    - Changing interval patterns do not solidify a tonal center except where such cadential emphasis is purposely created
    - Every interval contributes toward the subtle increase and decrease of harmonic tensions (without a rooted sense of progression)
- Melodic writing in the 3-parts is the more controlling and more significant aspect of this style composition
    - These are tonal regions caused by melodic associations periodically strengthened by vertical intervallic structures
    - Here the upper voice controls the tonal region with vertical lower voices heard as participating scale members

N.B.

Tonal movement, root recognition, and vertical awareness of intervallic dissonance all play an equal part in good

5 INTERVALLIC STRUCTURES IN HOMOPHONIC TEXTURES

I FOURTH CHORDS AND PERFECT FIFTHS

A. PERFECT FOURTH CHORDS

1 Background

- The tertiary organization of tones stems from the triad the Quartan organization (superimposed 4^{ths}) has no particular diatonic origin
- Closest reference to triad is the recognition that P4 is the inversion of the P5
- In a simultaneous chord formations of P4^{ths} an equality of intervals is formed avoiding any particular root stress

2 Characteristics

- Fourth chords may be used on any degree of the scale (diatonic or chromatic)
- Frequently given two connotations
  - : The 4th used as a substitute for the 3rd
  - : Derived from the natural 11th chord
    - – If the tone of the 11th is lowered from its tertiary placement it no longer carries with it the harmonic extension of sound
    - – Instead it takes over part of the chordal foundation
    - – Requires a new category of 4th chords
- Do *not* confuse a chord which contains an added tone of the fourth with that of a fourth chord

		F	11th
C		C	
G		G	
F	Added 4th	Eb	
G		G	
C		C	
C $^{(4)}$		C-11	

Difference between added 4th
and added 11th is significant
4th if lower location in chord
11th if upper location

- All twelve chromatic tones may be placed in a quartan organization

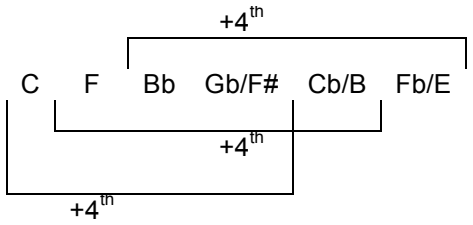
1	2	3	4	5	6	7	8	9	10	11	12	
C	C#/Db	D	D#/Eb	E	F	F#/Gb	G	G#/Ab	A	A#/Bb	B	(C)

In Fourths

C	F	Bb	Eb	Ab	Db	Gb	Cb	Fb	A	D	G

Tritone

: Forms a massive harmonic structure that cannot be broken down into particular chord members and their associations to a single root tone
: 1st 6 tones of a P4 chord unite in forming consonant intervallic relationships
: the 7th tone is a tritone relationship with the bass tone
: Each succeeding tone continues the tritone conflict in the vertical structure



- Mounting tension accompanies this harmonic growth

: P4th ascendency is nevertheless maintained giving chord of any number of successive 4ths its name 'Fourth Chord'
: Use I.S. p.4 for analysis (Intervallic structure built on P 4ths

3 Function

- Superimposed P4's by their opposition to the overtone series create a vertical tonal equality in each tone of the formation

: Outer voices may assume a more binding relationship
: Only the inclusion of melodic associations may *sometimes* suggest a root of a P4th chord (but a tonal certainty must naturally prevail)

  - Contrary motion in Bass + Leading tone in vertical structure
  - Melodic emphasis with dominant tone preceding
  - The motion of the outer voices places the melodic emphasis

- Because of tonal ambiguity that 4th chords contain they are frequently used to gain a 'Modern' effect that poses few harmonic problems

: Fit easily into many different areas
: With changing melodic attitudes a subtle harmonic change also occurs as tones of the 4th chord alternate their stress in combining with the melody

B. TRITONE

1 Characteristics

- Intervallic structures which are made up of a mixture of P4's and Aug4's (or enharmonic equivalent dim 5^{ths})
- Location of the tritone may occur between the lowest 2 tones or any successive 4^{th} intervals
- Any number of tritones may be included but they *must* alternate between the P4's if a duplication of pitch is to be prevented
- A phrase consisting entirely of 4^{th} chords gains sufficient variety of tension through melodic contour and the contrast between two types of 4^{th} chords (P4 & Aug4)
  - : The tritone 4^{ths} widen the range
  - : Activates the development within the phrase
- Tonal ambiguity is a prevalent among tritone 4^{ths} as with p 4^{ths}
  - : Each intervallic structure is accepted on its own terms
  - : No single compelling tone that insists on a specific resolution of pitch
  - : The 'isolated' quality is the result of intervallic structures which defy any significant root tone
  - : Leaves the entire effect of movement to the melodic contour and the slight deviations in the vertical quality

2 Omission & juxtaposition of chord members

- Quality of 4^{th} chords may be retained in intervallic structures which do not adhere rigidly to the exact quartan organization
  - : Omission of some 'middle' members do not affect the basic chord quality
  - : Omitted upper tones in 4^{th} chords does not change quality and the missing tones are *not* implied or suggested
  - : A gap in spacing may occur (octave separation, etc.)
  - : A central located interval may deviate from the 4^{th} ascendency *without* causing noticeable change in 4^{th} chord quality
    - – In discordant combinations of P4 & Aug4 the ear will respond to the tritones and almost erase the P4 ascendency
    - – In general concordant structures do not contain any tritone relationships and discordant do

- 4th formations appearing above a single bass tone or above one P4th interval may *or* may not qualify as 4th chord
    - : May remain intact if an octave or more separates a single bass tone form the rest of the 4ths
    - : Tritone may reflect a dominant quality
        - – As the gap between the single tone and upper arrangement may provide its own over-tones (which if supported) will disclaim a 4th hierarchy
        - – The analysis *must* reflect the presence or absence of tertiary tones
- Juxtaposition of chord members may also take place preferably among the 4th structures
    - : Inner voice inverting to become a P4 (sends 4th tone of the series up one octave)
    - : Tritone may set up conflicting harmonies (removing tonal ambiguity characteristic of 4th chords)
    - : Lowest 3 tones of P4 intervallic structure may be placed into a P5 formation
        - – In a wide range 4ths will retain their individuality
        - – But the greater the departure from the basis column of 4ths the less significance of 4th chord planning
            - + These fall into I.S. category
            - + Labeled as I.S. and indicated as I.S.p.4 based upon the lowest 4th

C. THE PERFECT 5TH 'ANCHOR'

1 Characteristics

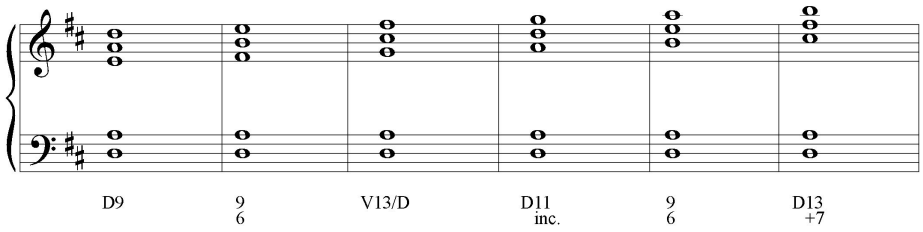
- Any combination of intervals can be 'mounted' upon a low P5
    - : Likened to an 'anchor' gripping the 'sands' of tonality
    - : The lowest tone by having the support of the immediate P5th receives a *root strength* that cannot be shaken by any amount of upper dissonance
        - – Higher tones may conflict and tug at this anchor but at best emerge as polychords or in independent movement above the rooted bass pedal
        - – Orchestrally the lowest tone and sometimes the 5th is frequently doubled in the next octave providing additional root strength

- In a series of P5's the lowest 5th retains its root stature
  - : Differs from a P4 which does not give root emphasis to any particular tone
  - : The wider interval spread in a P5 Chord usually limits the number of tones used in such a structure
    - – More clumsy than the P4 chord for the pianist
    - – Likely to cause intonation problems in an Orchestral setting
- Texture is similar to that of the column of P4ths
- 4th combinations are *not* 4th chords as built upon the P5 root
  - : Called Right Hand 4ths and replace the triad with the upper voice root and 5th

C	**D**
G	A
E	E
G	G
C	C

5TH Taken over by M6 or m6
R taken over by 9

- 4ths built below the tones of a scale provide a soft blend of sound over a positive tonality
  - : Are diatonically conceived
  - : Available for any root progression
  - : Do *not* contain the ambiguity of the 4th chord



II INTERVALLIC STRUCTURES EMANATING FROM BASS INTERVALS OF SIXTHS, THIRDS, SEVENTHS, AND SECONDS

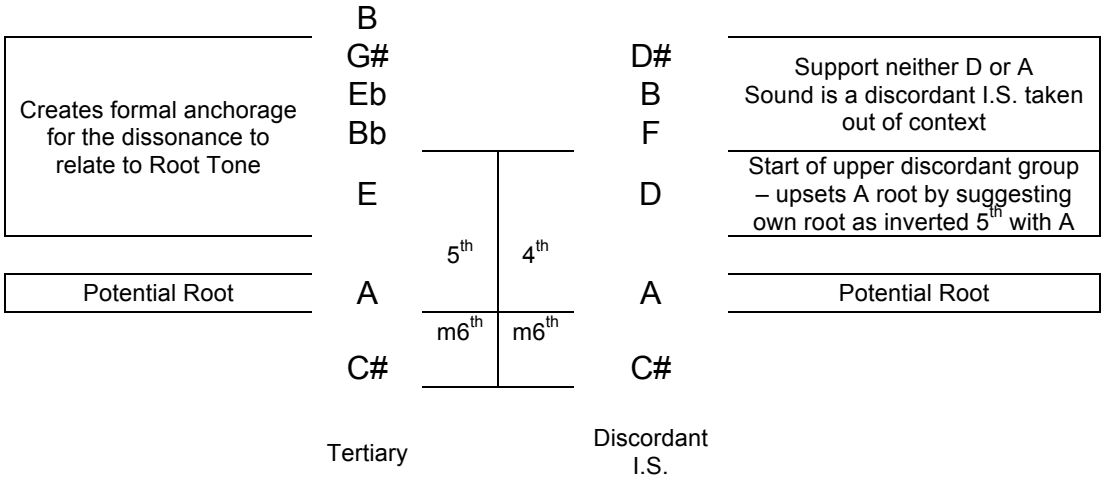
A. SIXTHS

1 Intervallic Structures (I.S.) built upon a bass interval of a 6th have less diatonic footing than either the P5th or P4th (except in exact quartan organization), or the 7th

- Presumes that the upper tones do not complete an inversion of a diatonic chord
  - : M6th is contained between the 3rd & 5th partials of the overtone series (by passes the root on the 4th partial)
  - : m6th is not formed until outlined by the 5th & 8th partials
- Both major & minor 6ths may be the foundation for very diffuse and discordant intervallic structures

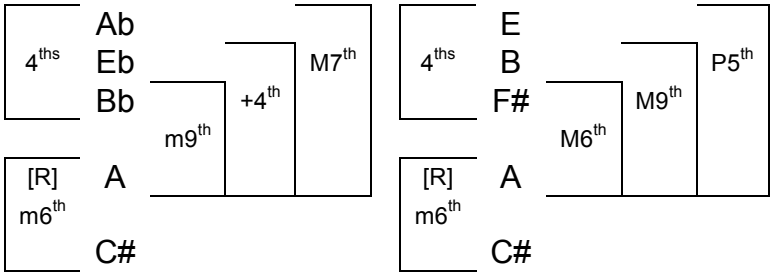
2 I.S. above a m6th

- Potential root implication within a m6th interval is the upper tone with the lower note representing the 3rd
- If a discordant non-diatonic harmony is desired tones may be built above the m6th which do not belong to the *potential root tone* of the m6th interval
- Particularly the first tone of this upper discordant group should *not* be a conforming one



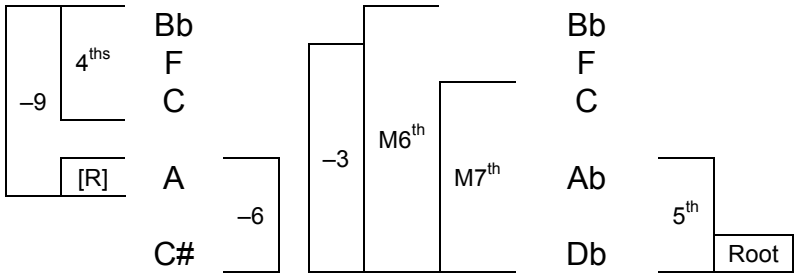
- Chord is identified by abbreviation I.S.–6
  - : Intervallic Structure followed by designated bass interval
  - : By marking the interval the awareness of the potential root tone is always present

- 4^{th} formation placed above the 6^{th} interval continue their tonal ambiguity above the insecure 6^{th} below
  - : May form discordant or concordant results
    - – Judgment is made largely upon the interval relationship within the chord
    - – Concordant I.S. generally does not contain a tritone, excess of $M7^{ths}$, or $m9^{ths}$
    - – Exceptions to these intervals may always be noted in recognition of the chords function in the phrase



Discordant I.S. –6 Concordant I.S. –6

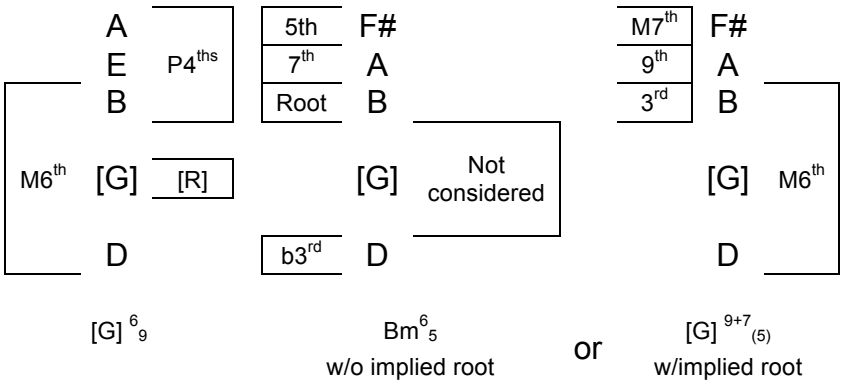
- Comparison of non-diatonic I.S. –6 and identical tones placed above a $P5^{th}$
  - : $P5^{th}$ provides root security of the chord
    - – Acts as receiver of the motion supplied by the preceding intervallic structure
    - – Does *not* pertain to the concordant/discordant quality of an I.S.
    - – *Does* relate to the firmness that a root position chord emits
  - : If dissonant intervals are organized into a tertiary ascendency they combine into a mutual coordinated sound
  - : –6 above the bass tone is sufficient in dislodging the other tonal relationships



I.S. –6 Db (13,+7)

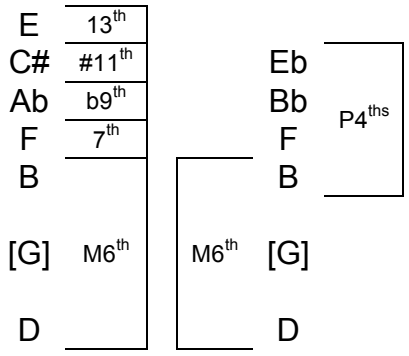
3 I.S. above a Major 6th (M6)

- Potential root tone is the implied but 'not' real presence of the 4th partial in the overtone series (or the tone a P4th above the bass tone
- Amazing how effective this implied root can be in injecting its quality into the vertical chord formation



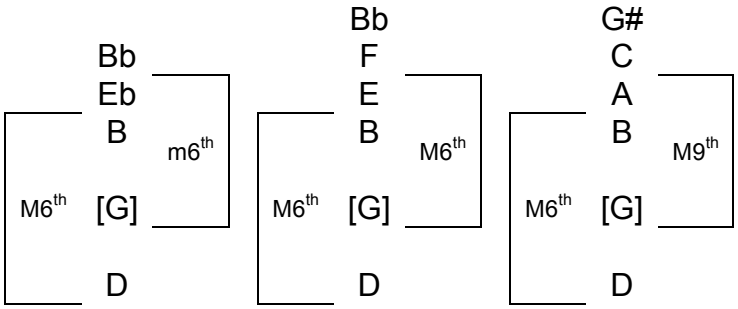
[G] $^{6}_{9}$ Bm$^{6}_{5}$ w/o implied root or [G] $^{9+7}_{(5)}$ w/implied root

Dominant Qualities
V is a 4 note Dominant Chord

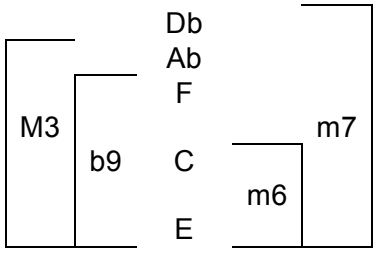


[V]$^{13\#11b9}_{(5)}$ I.S. +6 [G]?

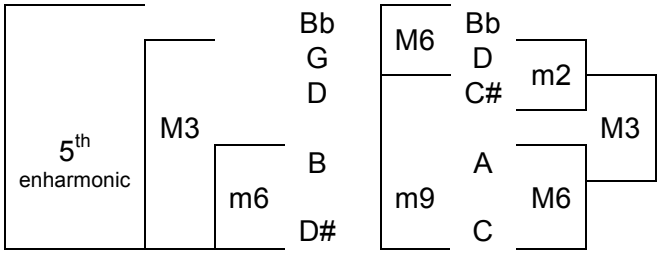
- Discordant I.S. +6 is nevertheless possible as the lowest tone of the upper group of tones is chosen by avoiding a close relationship to the possible root



- Polychords may be an unintentional result if upper triads or 7th chords are formed above either minor or major 6th



- 3rd above the 6th is a frequent discordant formation with quality which avoids the octave formation
  - : M6th would have M3rd
    - Forms a m9th contour with bass tritone
    - Little more harsh tan the M7th with m6th
  - : m6th would have a m3rd



Potential root tone may govern the relationship of upper tones – check their resolutions

- When dealing with indecisive intervallic structures the notation is based upon two factors

  : Ease of communication
  : Accuracy in denoting the directional movement of tones

N.B. Instrumentalist (not reading the full score) prefer an uncomplicated notation.

In analyzing or playing from the full score, preference is for notation which supports what is heard

B. THIRDS

1 I.S. above M3rds

- Range is one of the most essential factors in evaluating harmonic structures above an interval of a M/m 3rd
- M3rd if formed by the 4th & 5th partials of the overtone series

  : M3rd inherits support of the partials sounding beneath it

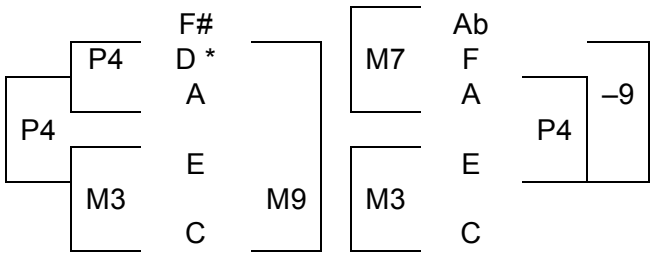
    – Includes two lower octave root tones
    – Above these the M3 is numerically the third reinforcement of the fundamental root tone

  : As such chords built upon major 3rds are generally placed in a higher register than in necessary for the larger interval foundation

    – Tones of such a higher placed I.S. do not project the same root strength
    – If M3rd expands into a tenth range the space created permits the vibration of the lower tone to be more exposed and emit *more* root strength

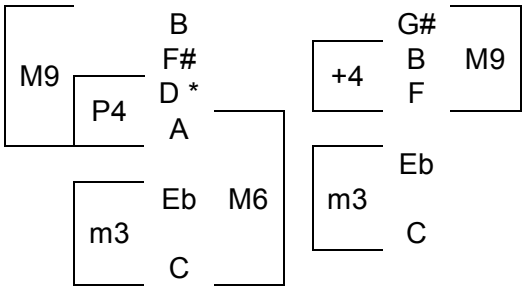
  : I.S. formed above M3/m3 is therefore very susceptible to other influences

    – A higher tone in the vertical structure may take the reins as a root
    – Incorporates the lower M3rd into its tonal association (perhaps as an inversion)



2 I.S. above m3rds

- m3rd founded upon the 5th & 6th partials neither of which is a root tone
- Places m3rd into a very special category
  - : It seeks to be incorporated into other tonal foundations
  - : Could be root and 3rd of a minor triad but would be required to contain a strong supporting 5th or be obviously situated in a minor tonality
- More readily it relates to diminished triad formations
  - : Belongs to a larger dominant hierarchy as part of an indeterminate root structure
  - : Or a known one heard upon resolution



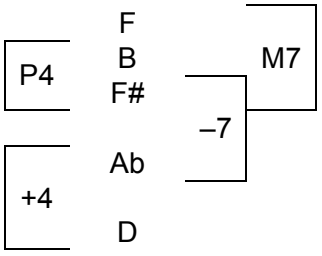
D $V^{13}_{-9\ (7)}$ I.S. –3 (F)

* Determined Root

C. TRITONE

1 I.S. above Tritone

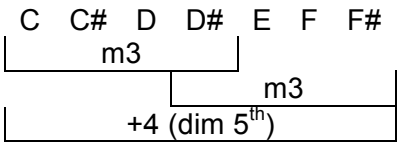
- May be the most ambiguous combination that can be formed
  - : Need not be very harsh in its indecisive quality
  - : Necessarily quite active



I.S. Tri

- Tritone *implies* the inclusion of two minor 3rds within its framework

Implied Intervals



  - : Frequently used as a diminished triad above which tones of I.S. may be added
  - : The m3rd structure becomes part of the tritone relationship rather than remaining separated as a m3rd
  - : This diminished formation generally occurs in a higher register while tritone may begin quite low in the bass

2 I.S. Tri. / Tri. 4 (tritone 4th chord)

- I.S. Tri. does *not* specify any organization of upper tones
- Tri. 4 is *limited* to tones composed of vertically built 4ths in which at least one interval is an augmented 4th (+4 or tritone)
- Differentiation between I.S. p.4 and p.4 (4th chord) is the same

  - : p.4 is restricted to a P4th organization
  - : I.S. p.4 builds upon lowest P4 interval and may contain *any* combination of tones

D. SEVENTHS

1 I.S. above m7th

- Building upon m7th provides little opportunity to 'shake' the firmness of the lower tone as root

  - : The dominant function is hard to conceal (even with the 11th directly above the basic m7th interval
  - : The 'hollow' space between the m7th interval permits the lowest tone to incorporate its overtone vibrations into the total sound
  - : m10th does not abolish the root tone if aided by other tones of the harmonic series (9 or 13)
  - : 4th formations *may* inhibit the root suggestion formed by the lower 7th interval
  - : p.4 is placed below I.S. label (designating quality)
  - : If a tone is omitted in 4th chord above 7th interval use – "p.4" – below the I.S. label

- Tritone 4th organization may also be marked when noted above the lowest interval

  : Less distinct in quality
  : Frequently blending into a dominant sound
  : Mark as +4 only if enough tones spiral upward for a *convincing* 4th structure

2 I.S. above M7th

- M7 provides an abundance of discordant intervallic structures

  : Discordant but not necessarily harsh
  : Space between the tones of a M7th is wide enough so as not to cause a direct conflict

- Arrangement of upper tones may or may not provide a root tone

E. SECONDS

1 I.S. above m2 / M2

- By inversion m7 & M7 form either m2 or M2 interval

  : Both described as a cluster of two (or more) tones
  : Serve to obscure the tonal value of the bass tones

- The 2nd itself is not important *unless* it represents a diatonic usage of the lowest tone as the 7th adjacent to the root
- The intervallic structure which rises above a M2 or m2 relies mostly upon the third note of the vertical formation for its harmonic association

  : This 3rd tone and remaining upper tones generally allay themselves with a preferred tone
  : This preferred tone is heard from the lower group of three

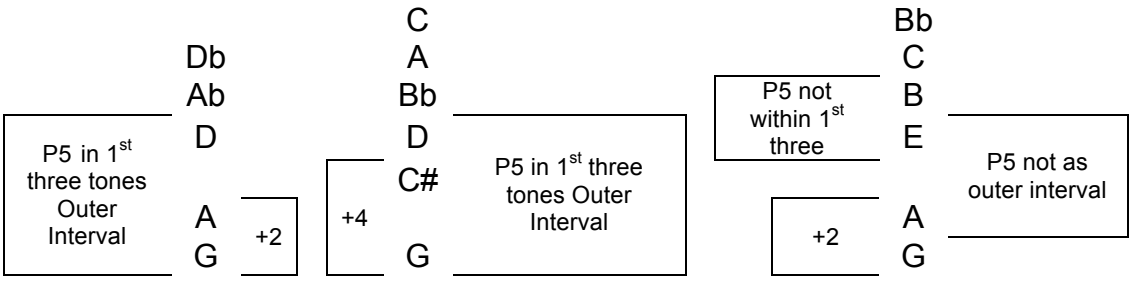
2 Factors which indicate harmonic strength

- Presence of a P5 especially when occurring as the outer interval within the three lowest tones
- Suggestion of a dominant quality within any of the tones
- Exposure given to certain tones by the degree of intervallic space surrounding them

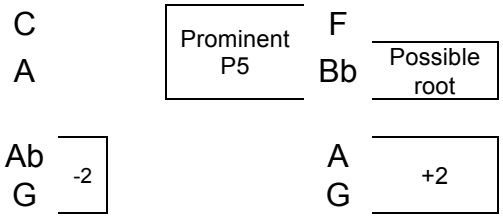
3 For analysis

- I.S. +2 p.5 as Intervallic Structure built on M2 with P5th important to sound
- I.S. +2 / I.S. -2 as Intervallic Structure with M2nd or m2nd as lowest interval

  : All upper tones have equal bearing upon the lowest cluster
  : Can be analyzed only as a group for their harmonic association
  : If P5th is present in upper tones indicate potential root by parenthesis as I.S. +2 (Bb)



I.S. +2, p.5 **I.S. Tri, p.5** **I.S. +2**

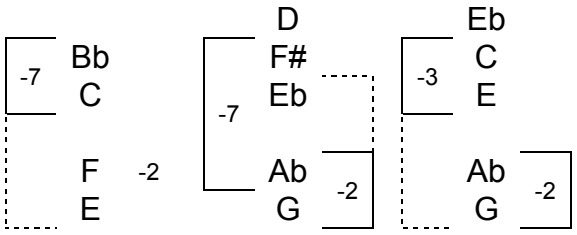


I.S. -2 I.S. +2 (Bb)

- If chords project a minor influence within make-up
  - : Lowest interval (m2 or M2) may add a disturbing quality to the dominant sound
  - : Generally one or two of the low tones will find some harmonic companion among the higher tones of the group
  - : Include the dominant symbol “V” w/root tone in analysis if this is the case

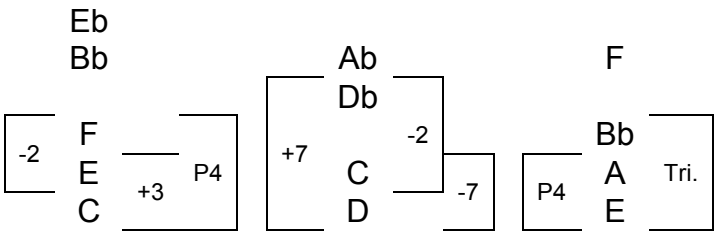
N.B.

The dissonant organization of intervals (such as a lower cluster) does not assume a diatonic ‘heredity’ in the vertical sound
BUT
The diatonic movement of pitch can never be completely abandoned



I.S. -2 C V^7 **I.S. -2 Ab V^7** **I.S. -2 (C)**

- A cluster which occurs between the 2nd & 3rd tone of an I.S. may negate the value of the interval formed by the two lowest tones
  - : Due to exposure that the upper tone maintains
  - : Here the vibrations of the lower tone of the *inside* cluster are 'squelched' by the more flexible and resonant upper tone
  - : When this occurs it is more accurate to represent *both* tones of the cluster
    - – Mark both intervals by their distance to the lowest tone
    - – Makes cluster more evident and its projection into the comprehension of the total harmonic sound



I.S. +3, p.4 **I.S. +7, -7** **I.S. p.4, Tri.**

4 Summary

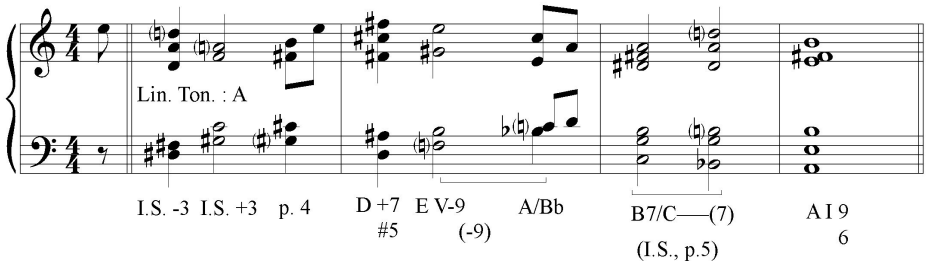
- Do not be hasty in applying I.S. analysis
- Check to see if the tertiary organization is implied even if a note or two may not be 'properly' located
- Use I.S. designation *only* if tertiary order does not fit or sound
- Check lowest 2, 3, or more intervals
  - : Remember potential root tone the lowest intervals indicate
  - : A rhythmic stress given to a particular tone may provide all that is necessary for hearing a root tone
  - : See if melodic line gives it any support

III LINEAR TONALITY

A. CHARACTERISTICS

1 Many indecisive intervallic structures are controlled by a melody line which has a degree of linear tonality

- Overall tonal suggestion may be present within a motive or during a phrase
  - : Prompted by the stronger intervals that suggest linear roots
  - : If harmony below the melody tones in indeterminate the melody itself may guide the whole movement of sound
    - – Suggests a shifting of the role of harmonic provider away from the bass and toward the melody
    - – Bass previously used to control all harmonic movement but today it may be extremely polyphonic without binding all parts into one harmonic merger
      - + Ear catches the motion of the outer voices as being most prominent
      - + Logical that the melody can bear a harmonic responsibility if the bass become neutral
- In phrases where melody is contained within a basic tonal area but is harmonized by intervallic structures which for the most part do not support it
  - : Mark the upper tonality by its letter name reference
  - : Proceed with I.S. designation until a merger into the upper tonal association occurs



The melody reflects the tonal center of "A" from 1st measure. Not until the second measure does the harmonic background truly concur

B. LINEAR TONALITY & LINEAR ROOTS

1 May be desirable to distinguish between the two

- Linear *roots* are recognized within a group of 2,3,or 4 tones of a harmonized line and pertain to a single root suggestion
- Linear *tonality* may be made up of several linear roots and is thought of in the broad sense of tonality *not* as progression

2 Frequently an analysis that stresses the linear concept is more appropriate than the beat by beat succession of complex intervallic structures

3 Conflict of $M3^{rds}$ & $m3^{rds}$

Raised 9^{th} is only recognized above the dominant 7^{th} compliment of tones

- Has inspired many composers by its unusual battle
- More space is usually present between other double inflections (except for clusters)
- Different interpretations can be attached to some double inflections
  - : Perfect and Diminished 5^{th} with dim 5^{th} recognized as +11 in many instances
  - : 3^{rds} are so close to root that they both wish to declare their mode
- Harsher results when the lower use of $m3^{rd}$ is contradicted by an *upper* $M3^{rd}$ (it will always sound strident as if unfitting)

4 Analysis

- There is value in thinking of chord structures from the bottom up
  - : As collections of intervals in search for a root potential
  - : Or the strongest interval group in the structure
- Essential determination of which tone is the root is apt to be ignored in the attempt at a tertiary organization of tones

IV Paired Intervals

A. Characteristics

1 Intervals need not be massed in a harmonic column of tones

- Any interval may be placed in a particular range and without additional sound may represent the total harmonic quality at that moment
- Differs from two-part writing in that the latter contains motivic movement
- An intervallic structure of two tones may be devoid of polyphony

2 Intervals may be heard as isolated units if any extremely wide range separates the conflicting pairs

- A merging of tonal sound is hampered by a gap in the middle range
- Likened to a pedal tone where the range differential permits two recognized roots (that of the upper material against the rooted bass tone/tones

3 In non-diatonic writing intervals of any size may be spaced at such distance that they neither merge *nor* suggest their own independent root scheme

- They merely denote an intervallic sound
- Each interval functions separately in the wide tonal span

B. Intervals moving in parallel

1 Parallel 3^{rds} or 6^{ths} in the classical age was generally used as a passing-tone device within a *known* harmonic content

2 Impressionism expanded this parallel passing-tone device into passing harmonic sounds

3 Modern application provides for parallel intervals which substitute for any harmonic content *and* also produce the sole motivic interest

C. Motives based upon Interval Design

1 Intervals may formulate a special design

- As part of the theme structure
- As an architectural force in shaping the form of the composition
- In ensemble paired instruments together with their special interval characteristics create form for a movement

2 Vertical intervals controlling main thought of music

- Another type of design in which the vertical intervals play on the different sizes of intervals
- May emphasize an expanding or contrasting sequence of intervals
- If listeners attention is made to focus upon such an intervallic scheme it then commands the chief structural recognition for that particular phrase
- Linear materials may dominate if a particular plan is emphasized

V THE CONTROL OF DISSONANCE

A. DISTINGUISHING BETWEEN DISSONANCE AND DISCORD

1 Characteristics

- Dissonance is a mingling of discordant sounds
  - : Discordant sounds 'however' are judged by their relationship to other sounds
  - : By definition they cannot be determined with any precision *out of context*
- Musical expressions change with the passage of time
  - : Intervallic combinations dissonant in the time of Palestrina become agreeable in the Classical Age
  - : Music history also shows that composition from 14th Century contain more 'dissonance' than those of the 16th Century (when judged by the latter standard)

2 Definition

- Dissonance implies a sound that is unpleasant *but* this reflects upon individual reactions
- Dissonance (as a musical term) was *not* intended to represent an ugly sound but rather a sounding of tones which together do not have a close harmonic relationship
  - : This is just contrasted with consonance having a close harmonic relationship

Groves' "Dictionary of Music and Musicians
Discord is a combination of notes which produces a certain restless craving in the mind for some further combination upon which it can rest with satisfaction

  - : Definition applies to *all music of all ages*
    - – Every musical style has its particular discords
    - – A fluctuation between discords and concords must occur
    - – Discords have an active quality in which the tension can be felt in greater or lesser degree

B. MELODIC AND RHYTHMIC TENSIONS

1 Vertical sound alone is not the complete factor that can determine the extent of tension created in a passage

- To respond to a dramatic climactic goal in music
  - : The tension must be built gradually
  - : Planned to occur in a structured area appropriate to the composition as a whole

- Tension is built melodically *and* rhythmically then at desired point of desired ultimate amount of strain or intensity the harmonic chord is emphasized
    - Noted for active and perhaps dissonant makeup
    - Without necessary preparation this same chord may not have the same degree of intensity if isolated as a vertical structure
- The release of tension is as important as its preparation
    - Change of active harmonies to more stable chords fulfills the purpose of the entire process
    - If the extent of active drive is considerable the feeling of achievement *must* be allowed time to unwind
    - Codettas and new/restated themes are useful with this
        - Harmonies of such themes are usually stable and unhurried
        - Contrasts with the preceding harmonic activity accompanying the rise of tension

2 Tension exists in varying degrees and is part of all musical phrases

- Melodic tension is felt when tones depart from the recognized tonic tone with fulfillment upon the tonic's return
- Rhythmic tension is created by an increase of rhythmic divisions of the basic beat
- Harmony is the result of several melodic parts sounding together
    - When these parts are coordinated to form root progressions tensions arise from
        - The melodic tendencies of the individual parts continue to dictate the movement of harmony forming a joint melodic tension
        - Vertical tension may be emphasized where the parts form a discord

C. VERTICAL TENSIONS; DISCORDS

1 Beauty in music that is produced by the proper control of vertical tension was recognized by composers of all time

- Suspensions of Palestrina, pedal tones of Bach, chromatic tones of the Classical Age, are all features of vertical tension
- Resolution of these non-harmonic tones provide a relaxation of the harmonic impetus

- Masterful compositions show a continuous *balance* between the increase and decrease of tensions
    - Fluctuations of the quality of vertical sound through root progressions, varying triads and 7th chord formations
    - Rhythmic & melodic attention must also be present and added to the vertical sounds
        - Rhythmic interest that affects melodic movement focuses attention upon a select number of chords that govern increase/decrease of tension
        - Rhythmic subtlety enhances the differing areas of tension formed by a rhythmic movement of the harmonies
- The astute listener responds to the fluctuations of harmonic intensity
- A composition *requires* a balance between tension and release

2 Discords must be evaluated within the scope of the harmonic intensity common to a particular *style* of composition

- As harmonic techniques increase with musical growth the areas of tensions become more complex
    - We do not *respond* to this dissonance in terms of a *greater* tension than in previous periods
    - It is all *relative* to the particular idiom that is expressed in the composition
        - Comparison is true not only between musical periods but also within the expression of *each* composition
        - The capacity to feel tension is *subjective* affected by the listener's musical education and taste
- A guide for charting vertical tensions is risky
    - Melody and rhythm are *equal* factors involved with vertical discord
    - Discords can be contrasted with concords if each composition is treated within its *idiomatic* context
    - Some melodic license needs to be tolerated
- A balance between concords and discords *must* take place in *all* compositions

D. THE GUIDE

1 Divides changing harmonic practices into four basic periods

- Classical representing all diatonic writing
- Late Romantic which add an expansion of harmonic material but remains basically diatonic
- Impressionistic Period
- Modern Period encompassing both the compositions which retain some diatonic elements as well as those utilizing Serial Technique
- Chronological dates cannot be used as composers and compositions utilized techniques which overlap

2 Vertical tension is divided into three groups

- Concords
- Discords
- Dual purpose
  - : Symbolizing sounds which in different contexts may express a different amount of tension
  - : Suggests either concordant or discordant quality or degree between the two

3 Classification of Concords and Discords

- Definitions which attempt to specify concords or discords by strict *interval* distinction can only be used for limited musical periods
- In chart attention is drawn toward specific intervals and their *changing* attitudes in the differing musical style or individual concept
- Some melodic association with diatonic tonality is included
  - : It is impossible to abandon the melodic tensions in a phrase and respond only to a vertical concord or discord in analyzing the movement of tension in a complete phrase (especially in the Classic Period)
  - : With this in mind the dual-purpose listing includes the Dominant triad and the Tonic$^{6}_{4}$
    - Dominant triad has same vertical structure as other major triads
    - But includes the leading tone or a dominant pedal (I^{6}_{4}) and supersede the vertical tensions
  - : Also chords containing chromatic tones may have more discordant qualities than their diatonic counterparts
    - Neapolitan 6^{th} with chromatically lowered 2^{nd} & 6^{th} degrees of the major scale
    - It inherits a downward drive toward cadence
    - Its major quality is felt ‘quite’ differently from that of a dominant or major triad

4 Primary purpose of chart is to formulate a guide of vertical tensions

- All melodic movement cannot be depicted
- Limited to the recognition of modulation
- To the dominant chord because of dual role in music
  - : When preceding the tonic chord it creates an insistence for resolution
  - : When used as a concluding chord of a phrase (semi-cadence) it is the receipt of other active harmonies (temporarily responding as a concord)

- The 2nd inversion of a tonic triad (major or minor) is also capable of a mixed evaluation
  - : In early polyphony the dissonant P4 made it a discord (G CE with G bass to C Root a P4)
  - : In Classical Period the tonic $^{6}_{4}$ was frequently given rhythmic stress and duration (making it focal point of the cadence)
    - This treatment makes it a concord
    - Satisfaction is achieved at this point of the phrase (being followed by the 'inevitable' cadence)
  - : In the Modern Period the tonic $^{6}_{4}$ is even used as a final cadence
    - Does not provide the same 'satisfaction' of root position tonic
    - But in contrast with preceding greater dissonance the effect is clearly a concord

Guide of Vertical Tension

Concords	Dual-Purpose Chords	Discords
General Classical Period		
• Tonic triad • All diatonic triads in root position and 1st Inversion	• Dominant triad • Major or minor triads second inversion * • Diatonic minor and major 7th chords and their inversions *	• Triads containing the tritone: VII and II° and their inversions • 7th chords containing one tritone: V7, IIø7, V9, VIIø7 and their inversions • 7th or 9th containing two tritones: VII°7, V-9; and inversions • Augmented 6th chords & inversions
Late Romantic Period *adds* **EXPANSION OF THE DIATONIC AND CHROMATIC TERTIARY HARMONIC STRUCTURE. CHORDS ARE SPACED ACCORDING TO THE NORMAL HARMONIC ASCENDENCY**		
• Extensions of the 9th, natural 11th or 13th to minor 7th chords	• Extensions to major 7th chords and inversions * • Minor 7th chords in which the 7th is a bass tone are frequently discordant	• Extensions (#9, #11, 13) to dominant quality chords and inversions
Impressionistic Period *adds* **CHORDS CONTAINING CLUSTERS**		
• Added 6th or 9th to tonic major triads, generally forming a major 2nd cluster	• Minor 2nd clusters	• Clusters added to previously listed discords • Limited use of poly-chords, generally within dominant quality

* These dual-purpose chords are apt to represent concords in this later period

Guide of Vertical Tension

Concords	Dual-Purpose Chords	Discords

Modern Style
adds
Intervallic Structures

COMPLETE OR INCOMPLETE CHORDS IN WHICH THE CHORD MEMBERS RETAIN A TONAL ASSOCIATION WITH A ROOT, BUT MAY BE SPACED WITHOUT REGARD TO THE TERTIARY ASCENDANCY

• Chords containing any number of added tones but selected with a greater prominence of P5 & P4, 3rd and major 2nd interval relationships	• Continues as the previous periods	• Chords which through vertical placement stress the discordant intervals of +7, -9, -2 • Above discordant formation plus the tritone • Polychords including the above

CHORDS BUILT UPON INTERVALS CHOSEN FOR THEIR NON-TRIADIC ASSOCIATIONS. THESE CHORDS STRESS THE INDEPENDENCE OF ALL TONES, RATHER THAN A GROUPING OF CHORD MEMBERS AROUND A SINGLE ROOT. THEY MAY OR MAY NOT ARISE FROM THE TWELVE-TONE ROW.

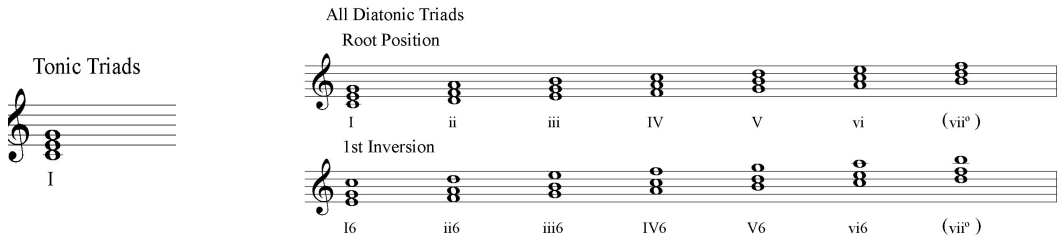
• Perfect 5th chords • Any chord containing fewer discordant intervals than present in preceding harmony may be felt as a concord		• Chords emanating from a 2nd, 4th, Tritone, 6th, or M7th, and avoiding diatonic relationships • Two-note interval groups, in pairs or separate, if discordant and widely spaced in range also may create maximum tension

Not to be forgotten

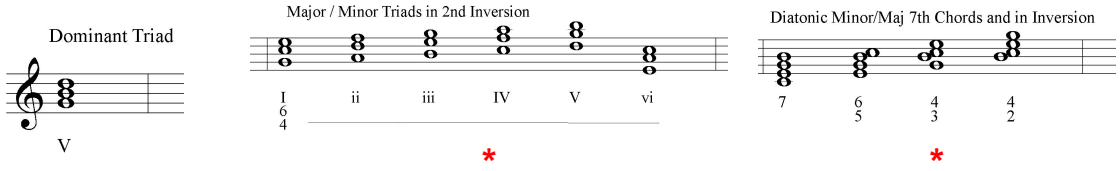
- **MELODIC AND RHYTHMIC TENSIONS PRESENT IN ADDITION TO THE VERTICAL CONCORDS AND DISCORDS**
- **ROOT PROGRESSIONS CREATE MOTION INTENDED FOR AN EVENTUAL RESOLUTION TO THE TONIC CHORD**
- **MELODIC MOVEMENT**
  - Has varying tensions within the diatonic scale
  - Increases tension through chromatic use
  - Causes increased vertical discords through the simultaneous sounding of non-harmonic tones (a single tone can cause tension by being out of context to prior harmonies
- **SOME MELODIC MOVEMENT COMBINES INTERVALS THAT FORM CHORDAL ASSOCIATIONS. THESE GROUPS ARE EVALUATED TOGETHER FOR THEIR VERTICAL UNDERSTANDING**
- **RHYTHMICAL MOTION CAN INCREASE TENSION, REGARDLESS OF THE VERTICAL SOUND. AN ACCOMPANYING RANGE OF DYNAMICS MAY SUPPORT EITHER DESIGN**

Guide To Vertical Tension Examples
General Classical Period

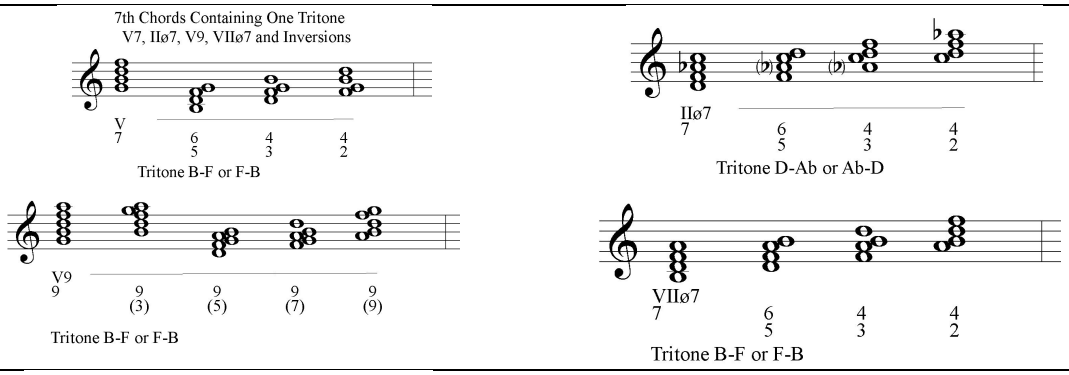
Concords

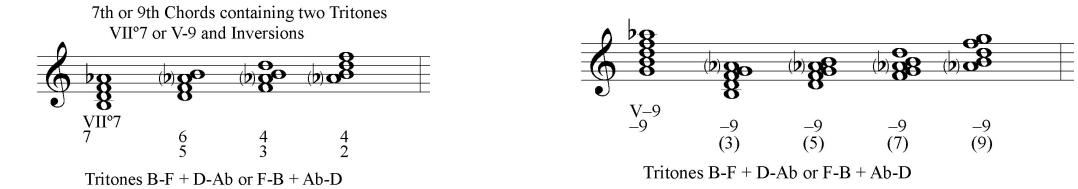


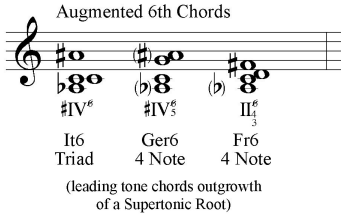
Dual Purpose Chords



Discords





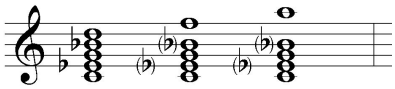


Late Romantic Period

Expansion of the Diatonic & Chromatic Tertiary Harmonic Structures Added
(Chord members are spaced according to the normal harmonic ascendency)

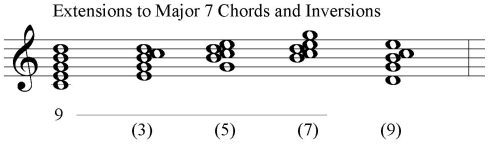
Concords

Extensions of 9, 11,13
to minor 7 Chords



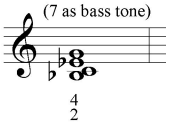
Dual Purpose Chords

Extensions to Major 7 Chords and Inversions



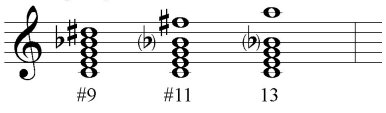
*

Minor 7 Chords
(7 as bass tone)



Discords

Extensions #9,#11,13 to Dominant
quality Chords & Inversions

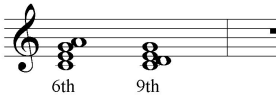


Impressionistic Period

Chords Containing Clusters Added

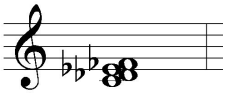
Concords

Added 6th & 9th to Tonic Triads
(Generally forming a M2 cluster)



Dual Purpose Chords

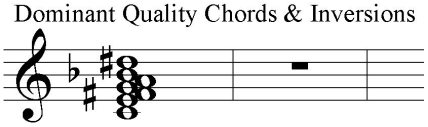
Minor 2nd Clusters



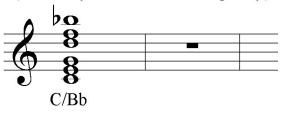
* Apt to represent concords in this later period

Discords

Clusters (#9, #11, 13) added to
Dominant Quality Chords & Inversions



Limited use of Polychords
(Generally within dominant quality)



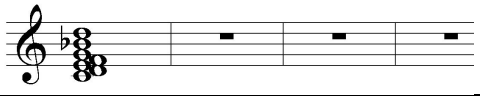
Modern Styles

Intervallic Structures Added

• *Complete or incomplete chords in which the chord members retain a tonal association with a root, but may be spaced without regard to the tertiary ascendancy*

Concords

Chords containing any number of added tones
(Greater prominance of P5, P4, 3rd, M2, intervals)

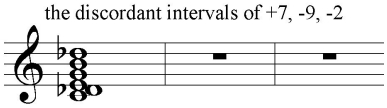


Dual Purpose Chords

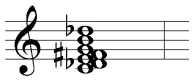
Continues as in previous periods

Discords

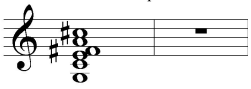
Chords through vertical placement stress the discordant intervals of +7, -9, -2



Stressed discordant intervals plus tritone



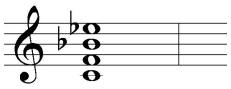
Polychords with stressed discordant intervals plus tritone



• *Chords built upon intervals chosen for their non-triadic associations. These chords stress the independence of all tones rather than a grouping of chord members around a single root. They may or may not be from the twelve-tone row*

Concords

Perfect 4th Chords



Any chord containing fewer discordant intervals than present in the preceding harmony, may be felt as a concord

Discords

Chords emanating from a 2nd, 4th, Tritone, 6th, or M7th, and avoiding diatonic relationships

Two-note interval groups, in pairs or separate, if discordant and widely spaced in range, also may create maximum tension

Not To Be Forgotten

- Melodic and rhythmic tensions are present in addition to the vertical concords & discords
- Root progressions create motion intended for an eventual resolution to the tonic chord
- Melodic Movement

Has varying tensions with the diatonic scale

Increases tension through chromatic use

Causes increased vertical discords through the simultaneous sounding of non-harmonic tones. Even a single tone can cause tension by being out of context to prior harmonies

- Some melodic movement combines intervals that form chordal associations and are evaluated together for their vertical understanding
- Rhythmical motion can increase or decrease tension, regardless of the vertical sound. An accompanying range of dynamics may support either design

E. APPLICATION OF THE GUIDE: A GRAPHIC CHART OF TENSION

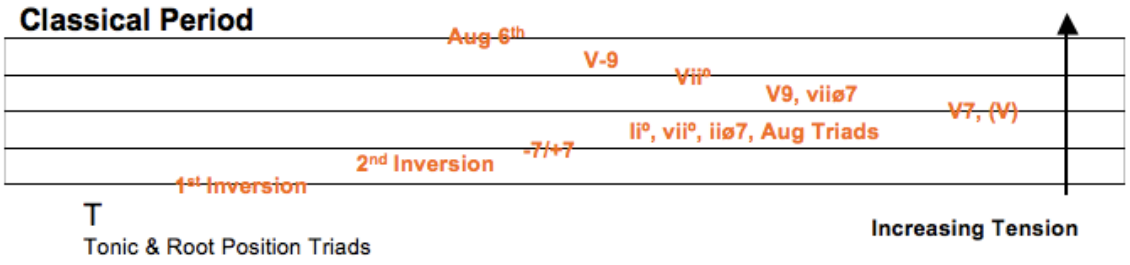
1 Chart is based upon staff – 5 lines, 4 spaces + 1 ledger line below
2 Classical Period Chart

- Low ledger line
  - : Tonic is placed upon ledger line with symbol 'T'
  - : Other root position triads are also placed here *without* 'T'
    - – Represent new 'tonics' in a modulation
    - – Stays the same for all musical periods
- 1st Line
  - : 1st Inversion of maj/min triads are on 1st line
- 1st Space
  - : 2nd Inversions of maj/min triads are on 1st space
  - : When hearing a cadential I^6_4 the 'T' symbol may be added to this graph line
- 2nd Line
  - : Diatonic maj/min 7th chords + inversions are on the 2nd line
    - – Tones forming the 7th are 'as direct' chord members
    - – Resulting from non-harmonic procedures (suspensions, etc.) providing they receive enough rhythmic duration to qualify as 7ths
  - : Inversions of the 7th chord need not be pictured separately
- 2nd Space
  - : Triads containing the tritone
  - : iiº & viiº root position & inversion, iiø7 are placed on the 2nd space
    - – Diminished quality of the supertonic triad has much more tension than counterpart ii triad (
    - – As motion usually proceeds directly to the dominant
  - : Augmented triad may also be represented on this 2nd space
  - : If dominant triad becomes augmented represent it on 3rd line
- 3rd Line
  - : Dominant quality with one tritone
  - : Dominant V7
    - – Dominant triad (omitting Tritone of 7th) if part of Perfect Authentic cadence
    - – This is a separate function from half cadence where dominant is treated as chord of 'repose'
  - : Inversions are indicated in same manner as root position chords

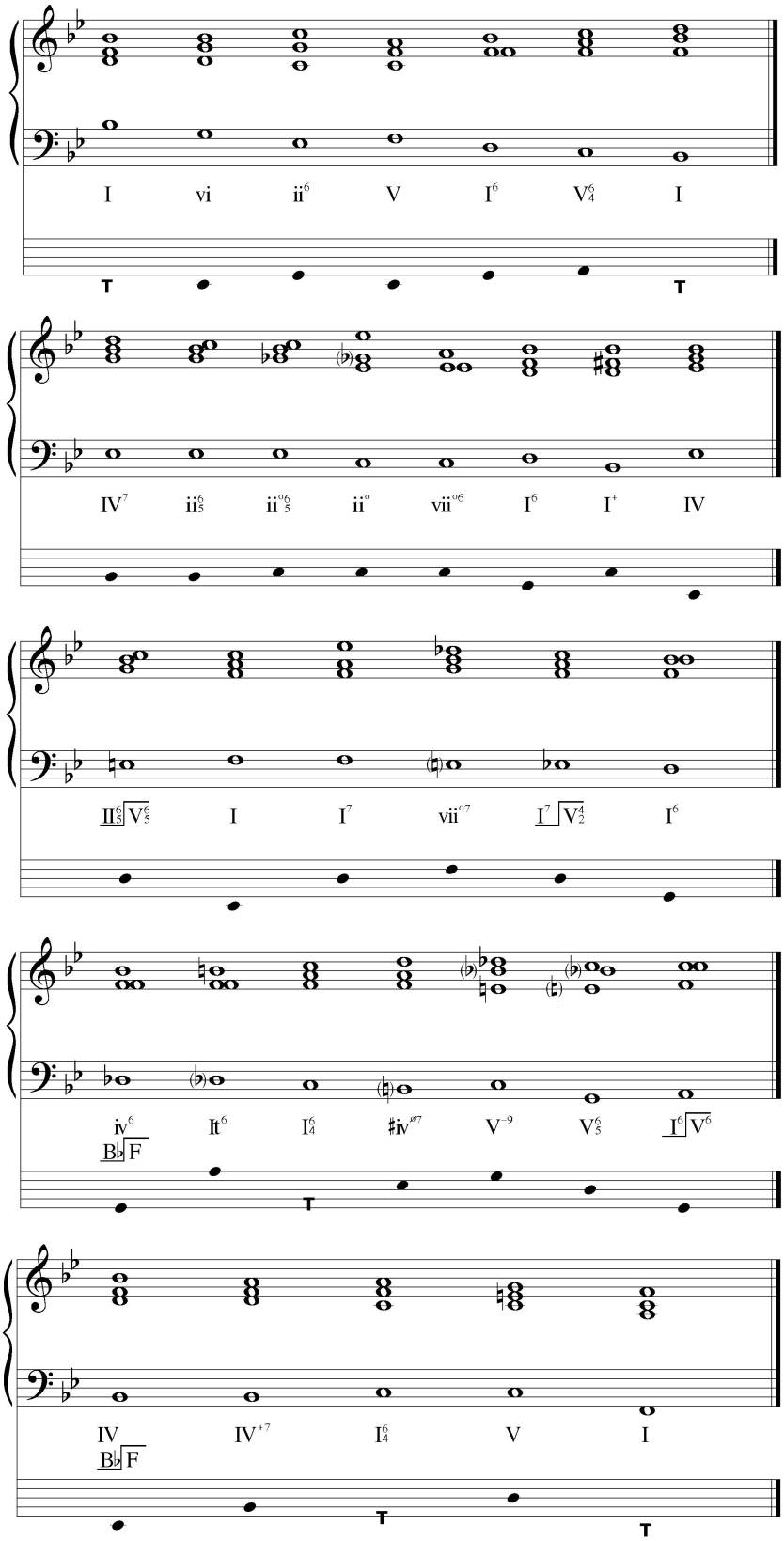
- 3rd Space
  - Dominant V9
    - Both maj/min 9th chord are extensions of dominant 7th chord
    - Maj/min 2nd formed with root (actual or implied) is important to vertical quality
  - Leading tone ø7 chord functions as an implied V9
  - Inversions are indicated in same manner as root position chords
- 4th Line
  - Dominant qualities with 2 tritones
  - Viiº7
  - Inversions are indicated in same manner as root position chords
- 4th Space
  - V–9
  - Inversions are indicated in same manner as root position chords
- 5th Line
  - Chromatic Aug 6th chords and the inversions that their function instigates
  - Argued that and enharmonic dominant quality is formed but the tone tendencies have no relationship to those of Dominant 7th
    - Chromatic element of 6th chord with *rising* resolution
    - Diatonic derivation of Dominant 7th with *downward* resolution
  - Leading tone of the Dominant 7th (3rd) if used as part of Aug 6th becomes tonic tone of Key involved
  - Difference in function between the dominant and that of Aug 6th is so great that this chromatic interval formation is charted for maximum tension

Graphic Chart of Tensions: Classic Period

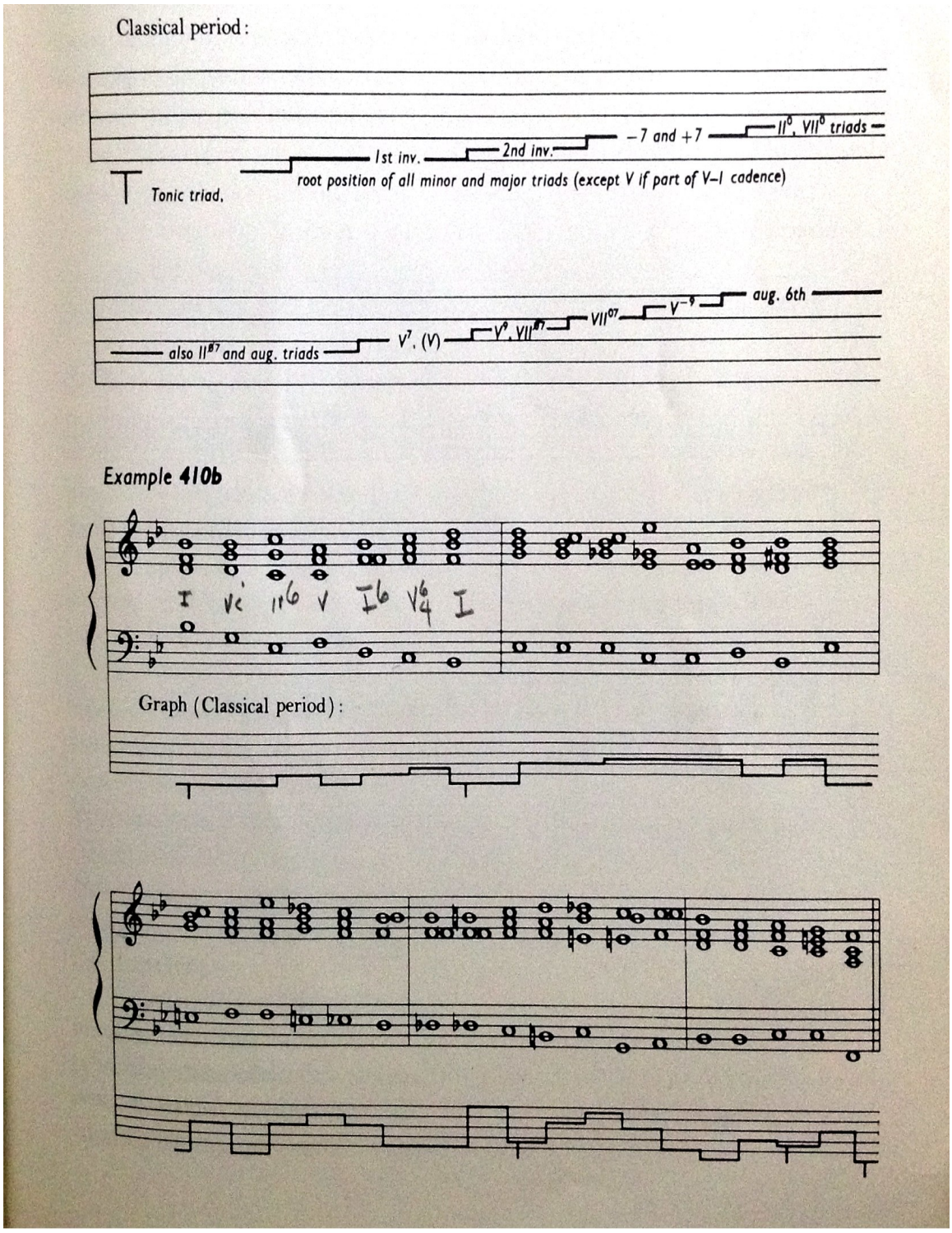
5th Line		Chromatic Aug 6th chords + inversions that function instigates
4th Space		V–9
4th Line		Dominant qualities with 2 tritones Vii°7
3rd Space		Dominant V9 Leading tone ø7 chord functions as an implied V9
3rd Line		Dominant quality with one tritone Dominant 7th
2nd Space		Triads containing the tritone ii° & vii° root position & inversion, iiø7
2nd Line		Diatonic maj/min 7th chords + inversions are on the 2nd line
1st Space		2nd inversions of Maj/min triads When hearing a cadential I^{6}_{4} T may be added here
1st Line		Inversions of Maj/min triads
Ledger Line	**T**	Root Position all Maj/min triads (except V if part or V-I Cadence Other Root Position triads without T



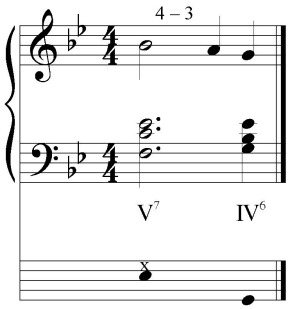
Examples: Classic Period



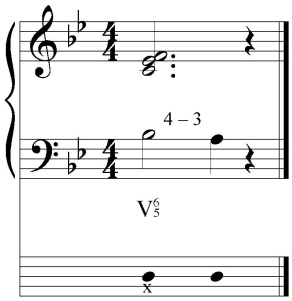
From Pg 433 Example 410b



- Non-harmonic tones
  - : Sounding simultaneously with chord members
    - – Create a strong discord until resolved
    - – Melodic tensions combine with the vertical sound
    - – In diatonic writing the non-harmonic tone is clearly separated from the accompanying chord members
    - – In the Modern idiom an ambiguity may result
      - + Total harmonic sound incorporates many contrapuntal ideas
      - + Prevents a distinct separation of harmonic and non-harmonic tones
  - : In charting the diatonic literature a non-harmonic tone which through rhythmic duration and stress may sufficiently influence the vertical tension *deserves* a representation on the graph
  - : Indicate such tones with a ‘x’ placed directly *above* the line or space that represents the chord quality known at *moment of resolution*



  - : If bass tone is non-harmonic mark ‘x’ *below* the graph line with chord quality known at *moment of resolution*



: Do *not* graph unessential tones which rhythmically do not warrant a vertical representation
: Do include all chordal appoggiatura tones on that designated line that represents the complete harmonic quality

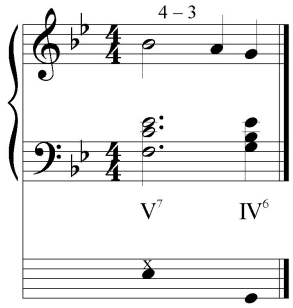
- Pedal Tones

: Supply a good amount of vertical tension

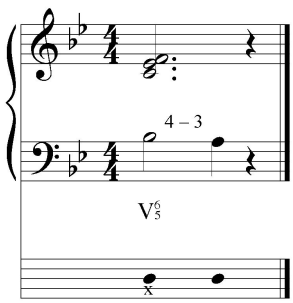
– In the most familiar use they help *reduce* the tension of the dominant into complete repose of the tonic
– Pinpoints use at final cadence rather than at cadences within composition

: Chart all pedal tone areas with two horizontal lines

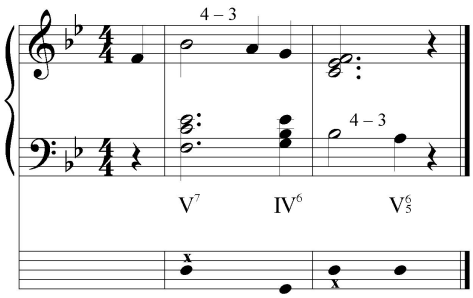
– One represents the upper harmony
– Other anchored to starting chord
– When they merge into a single response only one line is depicted



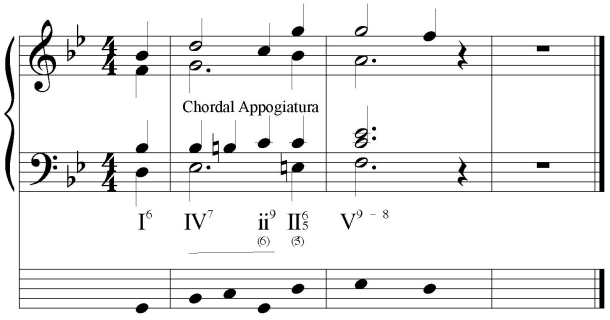
Rhythmic Duration & Stress



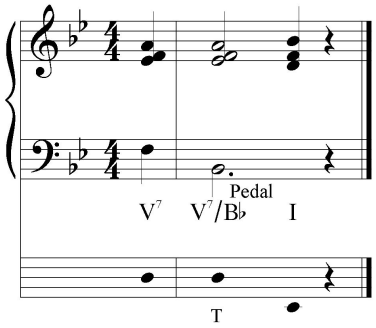
Bass Tone non-harmonic



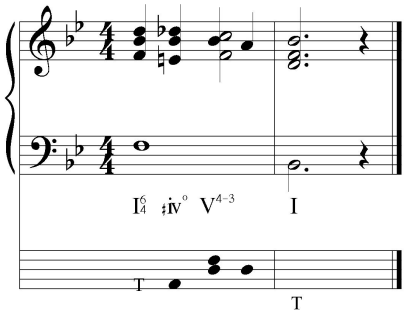
In Context



Chordal Appoggiatura

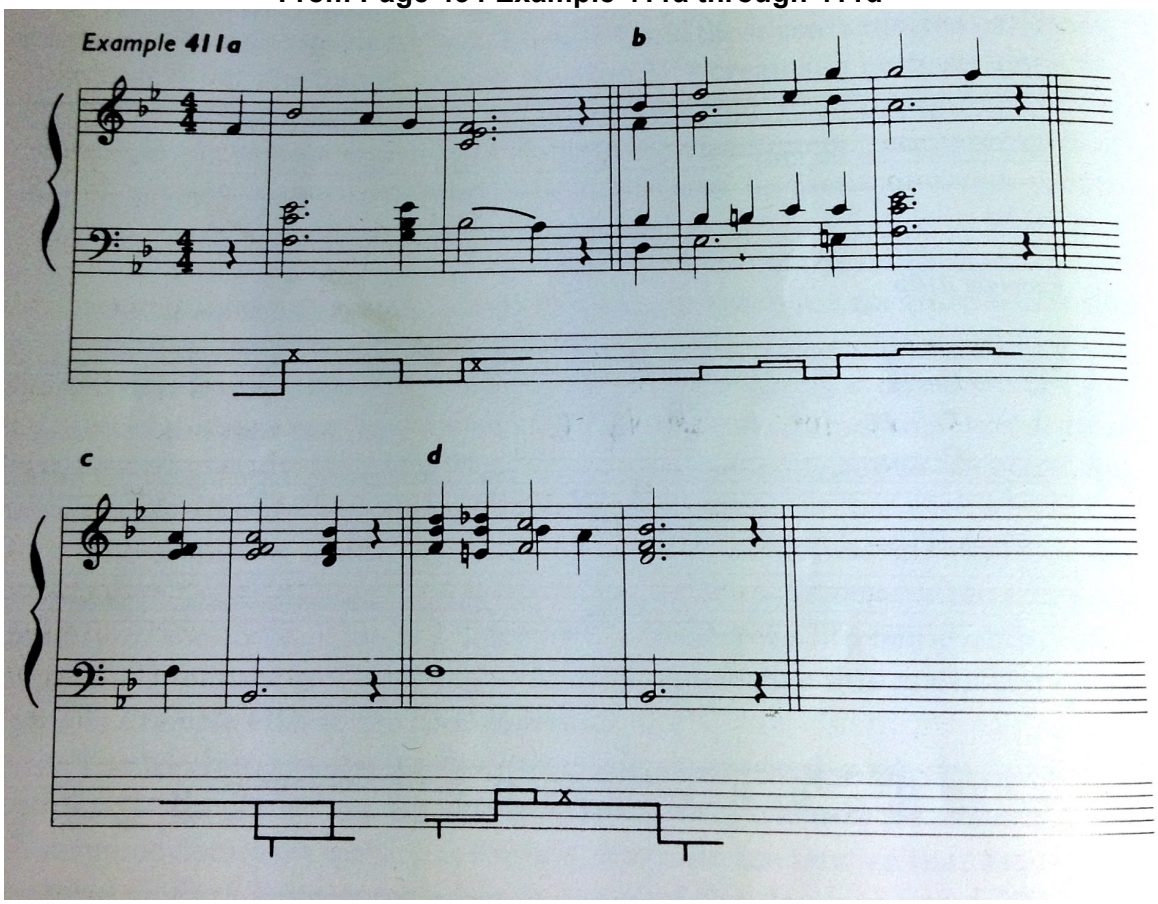


Pedal Tone



Pedal Tone Variation

From Page 434 Example 411a through 411d



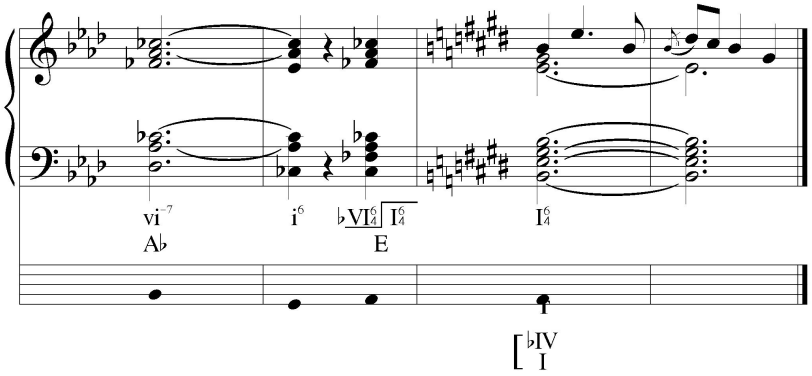
- Rests may be either observed by a temporary cessation of the graph line
  - : Ignored if harmonic continuity is apparent in spite of visual aspect and the momentary silence
  - : Cadences are best represented by a break in the graph line
  - : Rests within the phrase should *not* be represented
    - Largely interpretive
    - Do not halt the harmonic sound
- The dual-purpose category is not directly incorporated into the graph
  - : Recognition that certain chords have a dual purpose contributing to either rise in tension or decreasing role is sufficient
  - : Their changeable attitude depends on a particular melodic or tonal circumstance

NB:

Typical of Classical literature for harmonic movement is a constantly changing order of tensions.

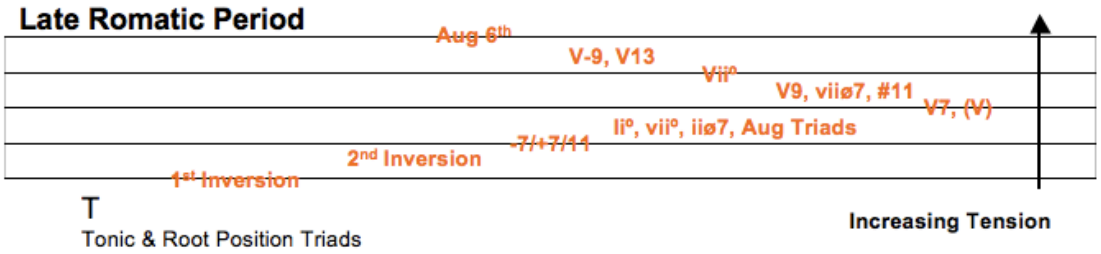
Naming chords is one process but their significance within a phrase or composition must be explored if any value to their naming is to be accrued.

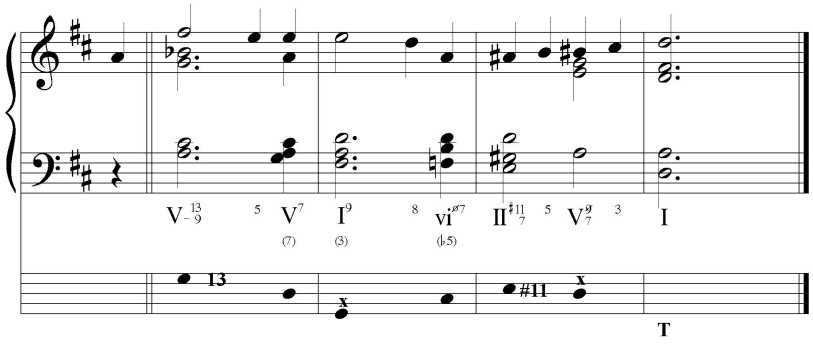
- Modulation
  - : The result of melodic movement which transfers harmonic formula to new tonalities
    - A modulation is related to a starting key and does not banish the strong hold that the 1st key establishes
    - Many themes modulate within their opening phrases ending a 'part 1' on a perfect authentic cadence in the dominant
    - Vertically it may be an exact representation of sound that later is used on the original tonic
    - It can *never* equal the cadential satisfaction of the opening key
  - : The first established key
    - Surrounds itself with all of the remaining diatonic and chromatic tones
    - Permits movement in all directions limited only by the stylistic manner
    - Chords and harmonic sequences inherit this movement
  - : Include in the graph the modulation present at cadences or significant areas of the composition
    - Use 'T' symbol for new tonic
    - Place below it the roman numeral relationship that it has with the original tonic

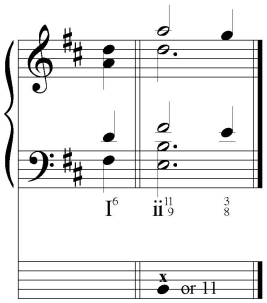


3 The Late Romantic Period

- Moving into the representation of the Late Romantic Period nothing is changed in the order of the graph
- Harmonic extensions mostly in the nature of appoggiatura 13th and similar structures are simply added to the existing 7th chord areas
  - : A 13th added to a dominant minor (as non-harmonic tone or not) is marked in the space above the fourth line with number 13
  - : The natural 11th may be an appoggiatura to a minor ii7 chord
    - – Does not have the same harmonic significance as the dominant quality additions
    - – Marked as either and 'x' above the 2nd line or as an 11th







4 Impressionistic Period

- Regrouping of the Vertical Tension categories is necessary to remain within 5 line / 4 Space graph
- Regrouping of Vertical tension categories is necessary to remain within 5 lines & 4 spaces

: Ledger Line

– Root Position
– 1st & 2nd Inversions

: 1st Line

– Minor 7ths
– And their harmonic extensions (9, 11, etc.)

: 1st Space

– Major 7ths
– And their harmonic extensions

: 2nd Line

– To permit distinction of the V7b5 → I category
– The iiº, viiº6, iiø7 are lowered to the second line

: 2nd Space

– whole-tone categories

+ Incomplete tritones
+ Major 2nd clusters
+ Augmented or whole tone dominants

– Whole-tone structures need not be very active

+ Their root ambiguity provides a pleasant response
+ Does not push toward a resolution of any particular kind

: 3rd Line

– The V7b5→I relationship involved within a whole-tone grouping of intervals

+ Symbolizes the dominant function
+ This is opposed to vague whole-tone sound

– Remains the same charting dominant qualities

: 3rd Space

– The higher partials of dominant functions as in the late romantic period
– 9, #11, 13

: 4th Line

- viiº7
- Remains the same charting dominant qualities as is late romantic period

: 4th Space

- V-9
- And the extensions

: 5th Line

- Augmented 6th chords
  + Do not invoke the same active tension as in the Classic period
  + Surrounded with much chromaticism and chordal expansions
  + The Aug 6th may have harmonic extensions of 9th (and others) added
  + Such additions are opt to cloud the main function of the Aug 6th Interval weakening its distinctive quality
  + *Except for actual Aug 6th chords* represent the higher numbered enharmonic dominants on the appropriate space above lines 3 or 4
- Polychords and dominants with double inflections
  + Not used with the same degree of intensity as in the Modern period
  + But were experimented with
  + Their dissonant result promoted a gradual connection with sounds of early Prokofiev and Stravinsky

NB:

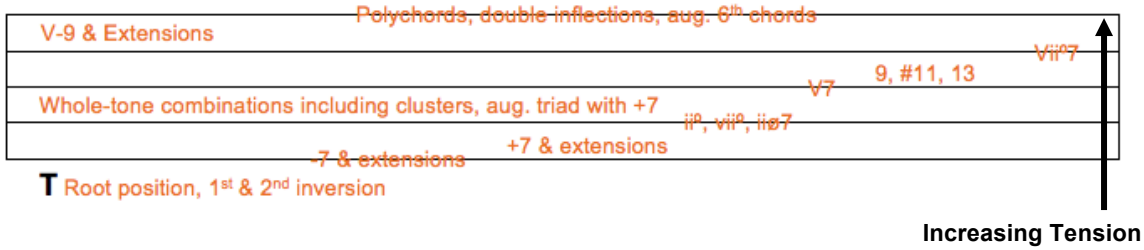
This re-organization eliminates the visual portrayal of the inversion of triads and groups the root position and both inversions on the added lower ledger line.

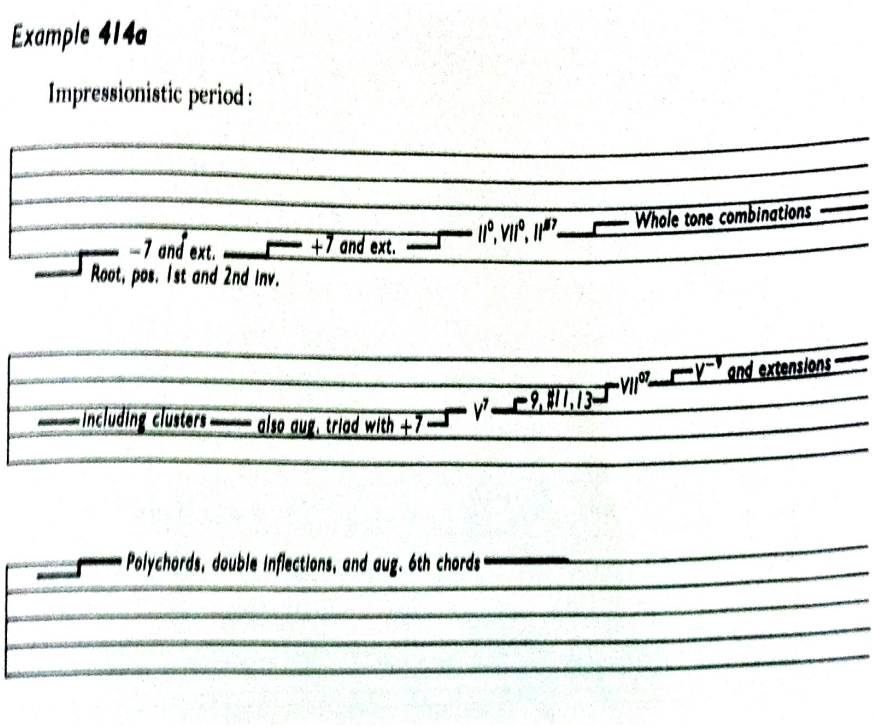
Due to the *overwhelming* non-diatonic function of harmonies in this period, the removal from the chart is not harmful. If inversion representation is desired it can be added through standard symbols

Graphic Chart of Tensions: Impressionistic Period

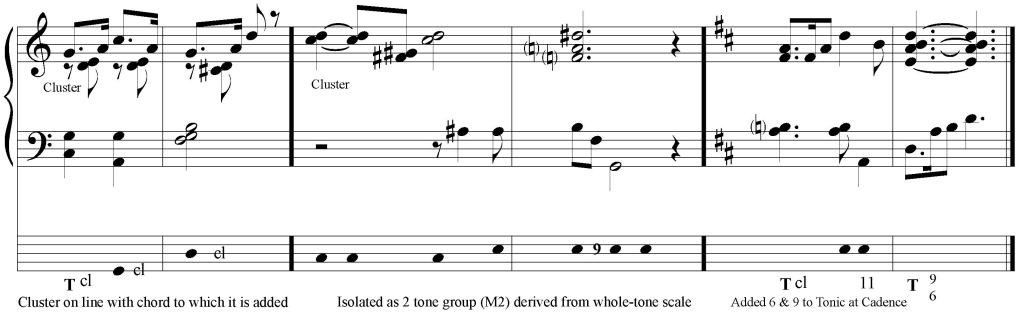
5th Line		Polychords, double inflections, and aug. 6th chords
4th Space		V-9 and extensions
4th Line		vii°7
3rd Space		9, #11, 13
3rd Line		V7
2nd Space		Whole-tone combinations including clusters also augmented triad with +7
2nd Line		Ii°, vii°, iiø7
1st Space		+7 and extensions
1st Line		-7 & extensions
Ledger Line	**T**	Root Position, 1st & 2nd Inversions

Impressionistic Period

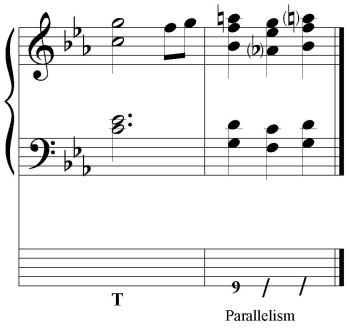




- Clusters will be represented by 'cl' and located on any line that denotes the chord to which the cluster is added
- Isolated as two note group
  - : Generally present as a major second
  - : Place on 2nd space as derived from whole-tone scale
- Added tones of the 6th and 9th are largely situated on the tonic chord
  - : They do not increase tension
  - : Provide a mellowing quality to concords
- From an expanded dominant of 6 or more tones a three note tonic resolution may sound abrupt
  - : Added tones veil the tonic without any damage to its solidarity
  - : Added tones to tonic are marked to the 'T' symbol as they would in the normal harmonic manner



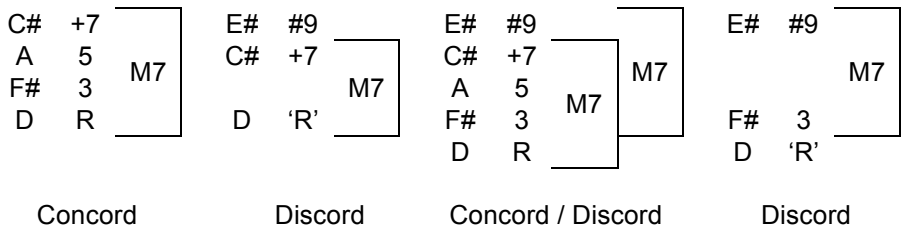
- Parallelism
  - : Not an innovation in the Impressionistic Period but an important technique
  - : Have chords of an identical quality following one another
  - : If over done can be boring
  - : Must be in a minimum proportion to other fluctuating changes in tension
  - : On chart draw slanting Parallel lines one for each changing chord on the line of the harmony involved



5 The Modern Period

- Divided into two basic styles of composition
  - : That which continues the growth of Impressionism and retains an overriding *tonal* concept
  - : That which uses a *serial* technique which aims to remove the diatonic past
- Serial compositions are largely contrapuntal with each voice moving quite independently
- Non-serial compositions may also be highly contrapuntal
  - : Harmonic areas arise from this counterpoint
  - : Builds a network of focal points out of which the tonal concepts are derived
- In *both* idioms the vertical structures are the result of intervallic formations created by the union of moving melodic parts
  - : Does not follow that serial compositions have no root possibility
  - : Or that ‘conservative’ (non-serial) are entirely suited to a tertiary or diatonic analysis

- Intervallic structures are a vertical collection of intervals which do not rely on a root and surrounding chord members
  - : Selected with much care in terms of variety and the desired increase or decrease in tension
  - : The function of intervals has *not* changed with the passage of time and musical growth
    - – Tritone, m2nd, or m9th, and M7th have always been and still are discordant
    - – Remaining intervals are concordant
  - : Intervallic structures may contain anywhere from three tones to twelve
  - : Frequently may sound like incomplete chords containing a root based on intervallic strength
  - : Incomplete chords or intervallic structures may build more tension that complete chords of many more notes
- Separating the concordant from the discordant intervallic structures
  - : Dual purpose category M7th may be concordant or discordant
    - – As concord
      - + May be used as a major tonic 7th chord (I+7)
      - + Occasionally on scale degrees other than I+7
      - + Adds extra color
    - – As a discord
      - + The M7th interval must be exaggerated
      - + Omission of the middle chord members will emphasis the M7th interval as it becomes the first interval placed above the lowest tone
      - + *Anything* added above this M7th will comply with this discordant setting
      - + Even if chord members (M3, P5) lie above the M7th the sound is more disruptive (though not necessarily discordant)



- 3 categories of intervallic structures must be added to the graph
  - : Lower Ledger Line
    - All triads
    - All triad inversions
  - : 1st Line
    - minor 7th chords (generally completely voiced)
    - minor 7th extensions
  - : 1st Space
    - Major 7th chords
  - : 2nd Line
    - Concordant intervallic structures
  - : 2nd Space
    - iiº, viiº, iiø7 (now moved to 2nd space)
    - Whole-tone combinations
  - : 3rd Line
    - Dominant
      - Occasionally dominant chord omits 7th resulting in chord without tritone
      - 9th generally substitutes for 7th as long as *clearly represents* dominant function – place on 3rd line (rather than as concordant intervallic structure)
    - Includes (now) all extensions to dominant Major 9th
  - : 3rd Space
    - Marks the dominant minor 9th
    - All dominant minor 9th extensions
  - : 4th Line
    - Discordant intervallic structures but without tritone (M7th, m9th, others)
  - : 4th Space
    - Intervallic structure which contains a tritone but does not convey as great a dissonance as the chord which follows

: 5th Line

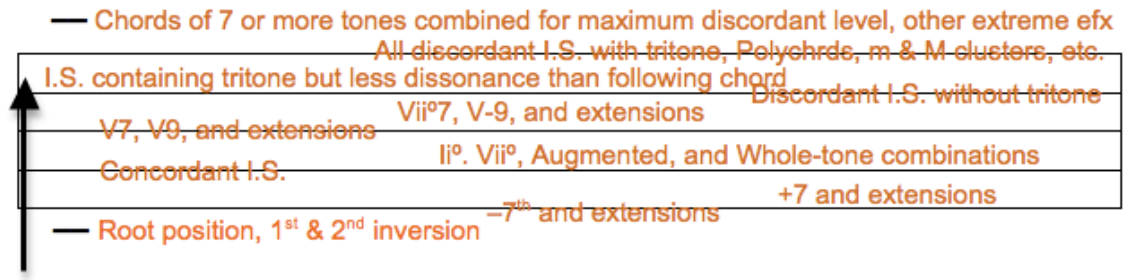
- Polychords
- Double inflections
- Discordant combinations which include tritone (one or more)
- Any combination of minor 2nd or major 7th

: Top Ledger Line

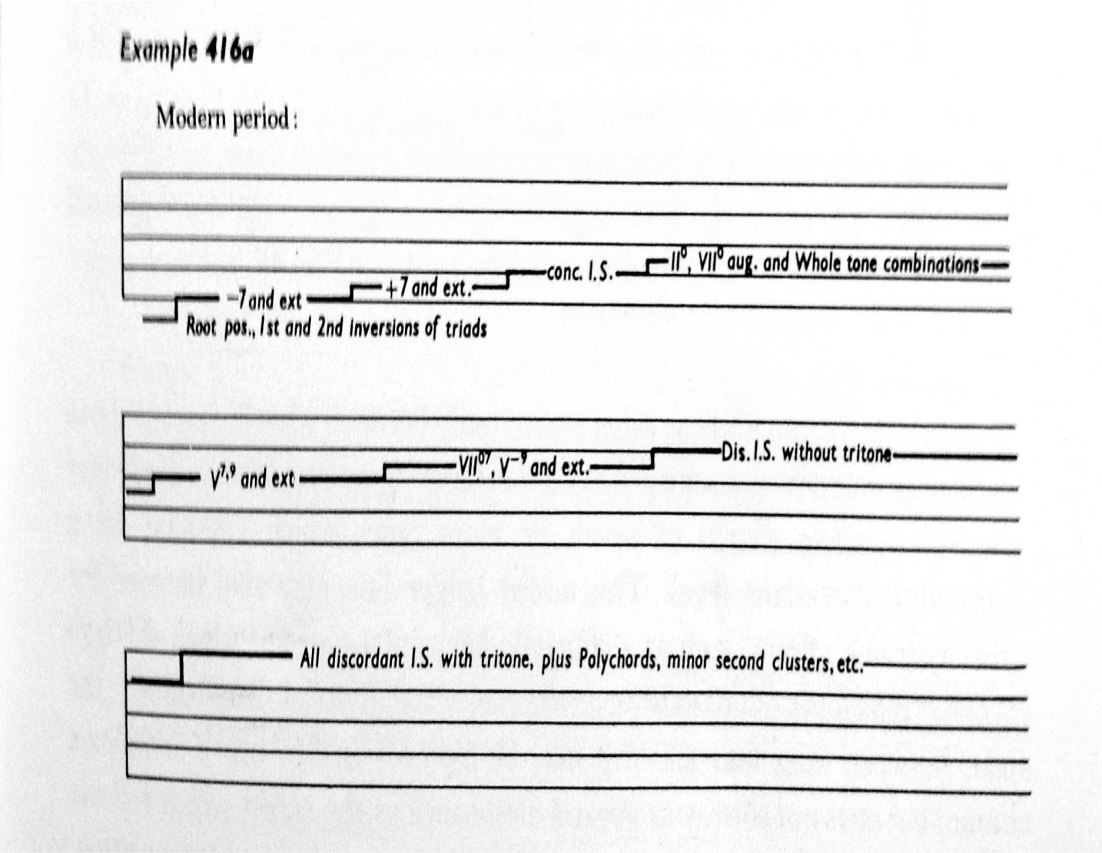
- Chords of 7 or more tones which combine for a maximum discordant level
- Other extreme effects (i.e. climactic horizontal passage which through its linear tension is felt to supersede the preceding material

Graphic Chart of Tensions: Modern Period

Top Ledger Line		Chords of 7 or more tones which combine for a maximum discordant level. Other extreme effects
5th Line		Polychords, Double Inflections, Discordant combinations which include tritone, any combination of m2nd and M7th
4th Space		Intervallic structures which contain a tritone but does not convey as much dissonance as chord which follows
4th Line		Discordant intervallic structures but without tritone (M7th,m9th others)
3rd Space		Dominant m9th, all dominant m9th extensions
3rd Line		Dominant (including omitted 7th), all extensions of M9th
2nd Space		Iiº, viiº, iiø7, whole-tone combinations triad with +7
2nd Line		Concordant intervallic structures
1st Space		Major 7th chords
1st Line		m7th chords, m7th extensions
Ledger Line	**T**	All triads, all triad inversions

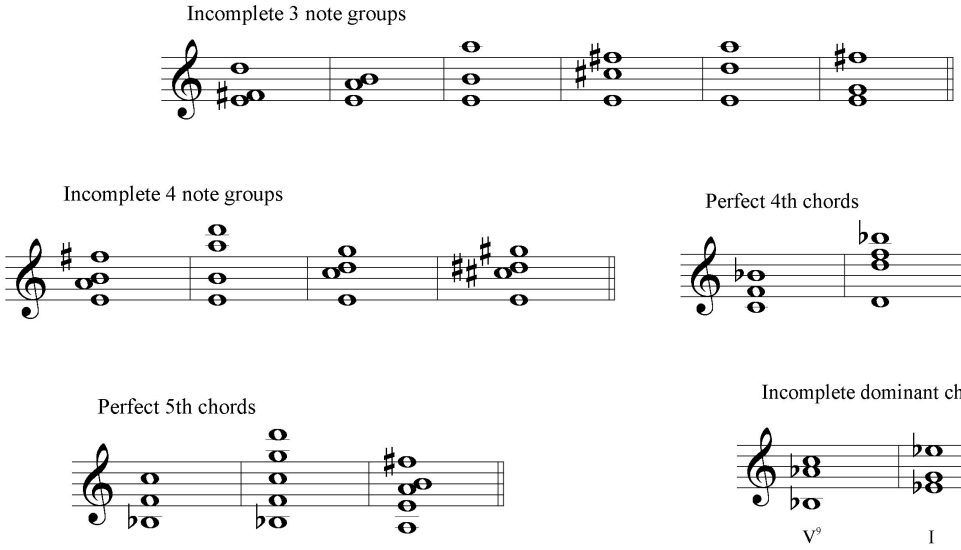


Increasing Tension



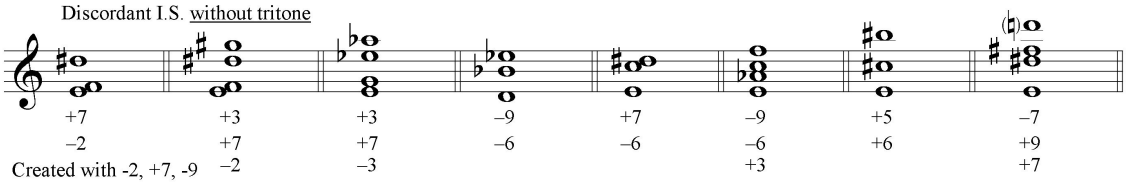
Concordant Intervallic Structures

Primarily +2, P4, P5, 3rds, 6ths – 2nd Line of Graph

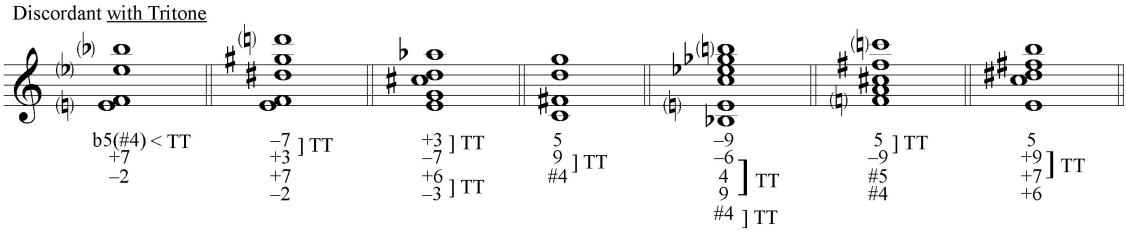


Discordant Intervallic Structures

-2,+7, -9 Without Tritone – 4th Line of Graph



Including Tritone – 5th Line of Graph



- General Observations
  - : Even a simple theme must be carefully planned for Vertical Tensions
  - : Purpose behind the graph is to show that regardless of the method of analysis the sound remains the same and may be classed by its interval make-up

F. A RHYTHMICAL INFLUENCE ON VERTICAL TENSIONS

1 Some rhythmic patterns group together to form a single harmonic unit within their horizontal lines

- Purely horizontal tensions heard are purely melodic
  - : Belong to the study of tonal associations and movement of directional tones
  - : Effect that certain directional tones have on tensions deals with the melodic outline they create
  - : Passages which contain a diatonic motion and then move chromatically may increase the tension as a result of the surprising chromatic appearance
  - : Modulation can be expressed through the movement of certain pitches rather than as a harmonic progression
  - : Active melodic features increase the satisfaction of the concordant resolution
  - : Cross-relational notes that chromatically contradict each other in diatonic associations
    - – Cause tension because of their 'disobedience' to the major or minor scale
    - – In harmonic formations these are called *'double inflections'*
- Uncharted horizontal tensions
  - : Rather than complicate the graph these are not charted
  - : The knowledge of horizontal melodic tensions must be remembered and recognized as a supporting factor for all vertical analysis

2 Intervallic Structures are the backbone of contrapuntal composition

- Each part moves so independently that the listener is more aware of the horizontal ideas expressed than in the harmonic result
  - : Intervals formed by the merger of various melodies as a rule do not produce a collection of obvious blocks of chords
  - : Rather through the art of non-harmonic tones they produce evasive and fluctuating interval combinations
  - : Each tone of the contrapuntal idea is essential and each needs to be graphed
    - – Can us 'x' (from previous pages) or chart the entire vertical sound with figured bass
    - – In graphing these materials include all tones that have rhythmic significance and there by contributing to changing tensions
  - : Possible to chart the entire vertical sound
    - – Observe actual intervals that result from the non-harmonic tones
    - – Use figured bass where the intervals are fully noted

- Contrapuntal compositions in the Modern Idiom defy the separation of chord tones and non-harmonic tones *except* on rhythmic principles
  - : Freedom invoked by the twelve-tone scale
    - – Serially or not produces endless variety of vertical combinations
    - – Formed by the various contrapuntal lines
  - : With no diatonic tradition behind the modern counterpoint cannot judge which tones are chord tones or non-harmonic
  - : Composer is mindful of vertical intervals
    - – Not attempting to surround them into harmonic shapes as in Classical Period
    - – Analysis of such compositions, the intervals reveal what we hear vertically
- Two voice writing requires an understanding of the intervallic tensions
  - : Charting is unnecessary
  - : Factors of contrary or parallel motion together with melodic contour are significant
  - : Vertical understanding requires only a supporting role
  - : It must support the lines as well
- Tensions heard at conclusion of motives or phrases can be compared with the Classical distinctions of cadences
  - : Cadences in an entire composition must vary sufficiently
    - – Giving motion and continuity (where needed)
    - – Pausing more readily for definitive structural areas
    - – Functions of intervallic formations help in the selection of cadential material
- Need for evaluating tensions at opening and conclusion of motives
  - : Especially applicable for fast tempi
  - : Utilize rhythmic divisions of passing tones or similar melodic groups
  - : Ear can only grasp changing tensions within a limited speed
  - : When a pulse or beat is divided into tones whose *individuality* cannot be comprehended the *become* 'non-essential' from a vertical or harmonic point of view

N.B.

The ear retains either consonant or dissonant impulses until a positive change

  - : Those that stand out
    - – Within rapid groups the first and last tones
    - – The tones supplying the highest and lowest peaks of the melodic contour
    - – Repeated tones
    - – Frequently tones left by a skip
    - – Most insignificant tone is the unaccented passing tone but with exceptions

- Difficulty in the selection of the essential intervals (varies with composition)
    - : Establish the basic pulse and relate it to the changing tensions heard
        - Whole phrases may be built either on concordant or discordant harmonies
        - Change of tension is then manifested only within large areas of sound
    - : Trace motive and phrase lengths
        - Analyze first the tensions involved at beginning and end of piece
        - Examine the intervening material by noting any *significant* contrast of tension
    - : Observe the rise and fall of the melodic contour of all parts involved
        - Check to see if an important goal is present
        - If a definite vertical discord or concord coincides with the goal
        - Do not chart a phrase unless you know its *purpose* within the larger composition
    - : Analyze the tensions of the rhythmically stressed beats
        - Compare them to *end* of measure
        - Allow the first quality you hear to remain as long as possible
        - Frequently the end of a measure will clarify rather than change the opening sound
    - : Does the horizontal sound supply more tension than opening sound
        - If so bracket the discordant intervals
        - Check on the ‘crisscrossing’ of tritones or cross-relations
    - : Trust your ears
        - Let the graph help to visually depict what you are hearing
        - Remember that it is *not* designed to incorporate everything
        - Graph is a guide *only*

- Graph cannot guarantee a successful application of harmony because it represents only the *vertical* conclusion
  - : Melodic and rhythmic tensions must participate with the vertical sound for a meaningful phrase
  - : Chart can be especially valuable in detecting problems with the movement of harmony
  - : In the Modern Idiom with the free tonal behavior a visual aid toward discerning pitch selection may be helpful
    - All tones in the vertical structure are examined
    - The melodic considerations are not ignored in their effect on harmony
    - The distinction between the melodic and harmonic tone may be impossible to verify
  - : In the Classical Idiom
    - The vertical result also represents all tones
    - Our analytical powers permit a separation due to the understanding of harmonic tradition

6 PART VI THE TWELVE-TONE ROW

I ITS STRICT APPLICATION

A. BACKGROUND

1 Arnold Schoenberg is credited with formulating this method

- Dissatisfied with the term it is now commonly known as Serialization with compositions utilizing the technique called serial compositions
- Constant musical growth led Schoenberg toward more chromaticism and experimentation
  - : He was hearing and using unfamiliar patterns of sound
    - – Sought some unity of form and procedure to contain the new sounds
    - – His creative inventiveness lay in contrapuntal channels which differ sharply from the homophonic expansion of the late romantics
  - : Further growth on triadic sounds seemed unlikely
  - : Chromatic sounds needed a new form of expression for Schoenberg
    - – In a style that stripped Romanticism of its harmony
    - – Preserved its chromatic texture
    - – 'Burst the seams' of melodic thinking but did not destroy melody
    - – Rebelled against diatonic controls but recognized the need for *all* art to have a structural shape
    - – Controlled and woven out of whatever materials the artist chooses (Schoenberg relied upon the tone row)

2 Schoenberg's thinking brought about a concentration upon *motives*

- Particularly motives linked by intervallic bond
  - : Motivic unity is not new
    - – Same process that Brahms employed and that takes place in all fugues
    - – Schoenberg departed from the classical hold on motives as did Brahms in the are of rhythms

Josef Matthias Haur also developed an Atonal system but different from Schoenberg

- Diverse rhythms accompany each reappearance of a motive
  - : Difficult to hear a motive's return when the rhythm disguises the intervallic bond
  - : Lack of rhythmic repetition permits the same interval combinations to return many times without listener being made aware of every repetition

- Pieces which Schoenberg wrote prior to serialized approach stress motivic expansion
  - Akin to Brahmism and Wagnerian forms of motivic expansion
  - More tightly concentrated and tightly held to one or two short motives
- From these early compositions a strict technique developed in Schoenberg's middle period
  - Gradually relieved of some early rigid procedures latter by Schoenberg
  - Also eased by composers of the next generation

B. THE TONE ROW

1 Description

- Consists of the twelve tones that make up the chromatic scale
  - Organized into an arrangement which stresses the individuality of *each* tone and *removes* chromatic principle of required resolution
    - Schoenberg called this 'composing with twelve tones' related *only* to each other
    - The row becomes the backbone of the entire composition *both* in melody and harmony
- The arrangement of tones (Row) planned by the composer is *inflexible* as a formula out of which motives are formed
  - The melody is not inflexible
  - The twelve-tone row is *fixed* and remains unaltered throughout the work

2 Organization of the Row

- Composer selects the tone row very carefully as must provide
  - Good melody
  - Vertical arrangements
  - Flow that is *unrelated* to each other in terms of diatonic suggestion
- The row cannot contain groups of tones that would relate as part of a major scale
  - Would merge the tones into one thought
  - In effect cancelling the independent stature that is desired for each tone in the row

- Row does not repeat any pitch till row is completed
  - : Premature return ‘might’ provide auditory emphasis giving attention to a tone which might suggest a key center
  - : Musical repetition and immediate reiteration is permitted
    - – Given rhythmical and musical expression the single repetition of a single note may take place
    - – If two or more different row forms are used simultaneously a recurring pitch may occur (part of the use of a row not the organization of the row)
- Mutations of melody occur within a changing selection of pitch derived from the row but *not* from a changing row

3 Construction of the row

- The composer forms a twelve-tone row
- Avoid a group of tones that denote a diatonic reference

Following Ex. 429a

- : Arpeggiated chord of three or more notes
- : Obvious scale associations

- Avoid chromatic combinations that result in the resolution of a leading tone

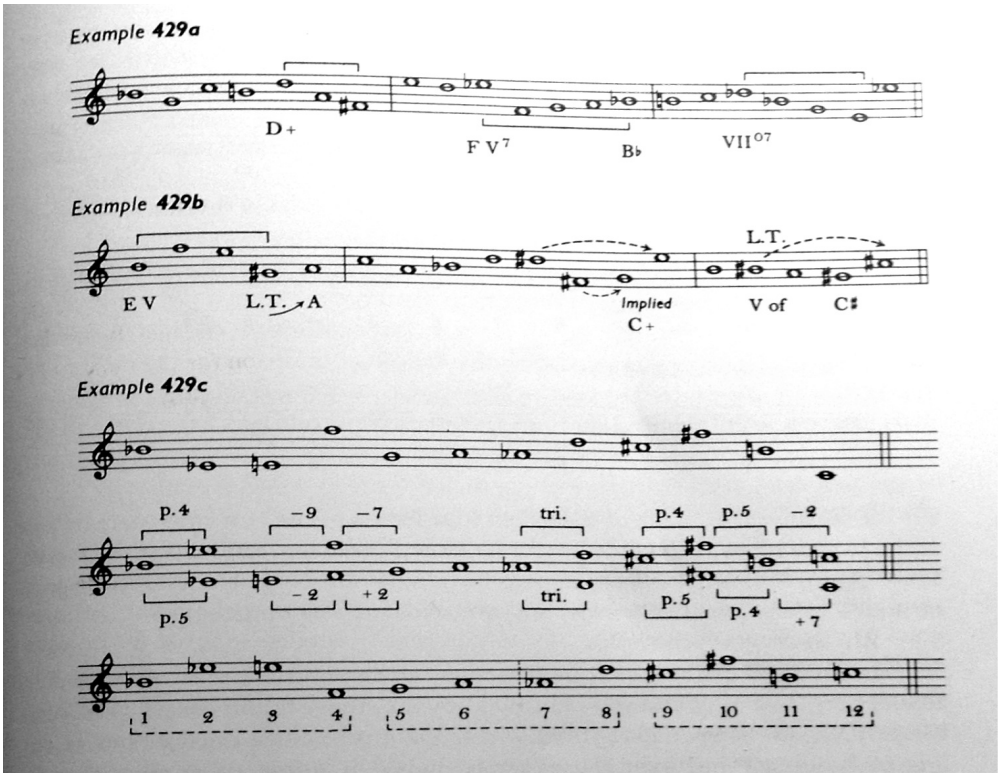
Following Ex. 429b

- Consider intervals

Following Ex. 429c

- : Unless a deliberate design row should be balanced grouping of 2^{nds}, 3^{rds}, P5, P4, and 6^{ths}
- : Octave exchange is permissible (2^{nds} & 7^{ths}, 3^{rd} & 6^{th}, P5 & P4 considered same in row)
- : Usual for more 2^{nds} & 3^{rds} than P5 & P4

- Balance is also considered in the smaller divisions that the row forms
  - : Divide row into ½ (6 tones) or three groups of 4, etc.
  - : Should result in motives of some independent interest
- Be sure that the last tone or group of tones ‘slides’ smoothly into beginning part of the row
- Any tone can be spelled enharmonically

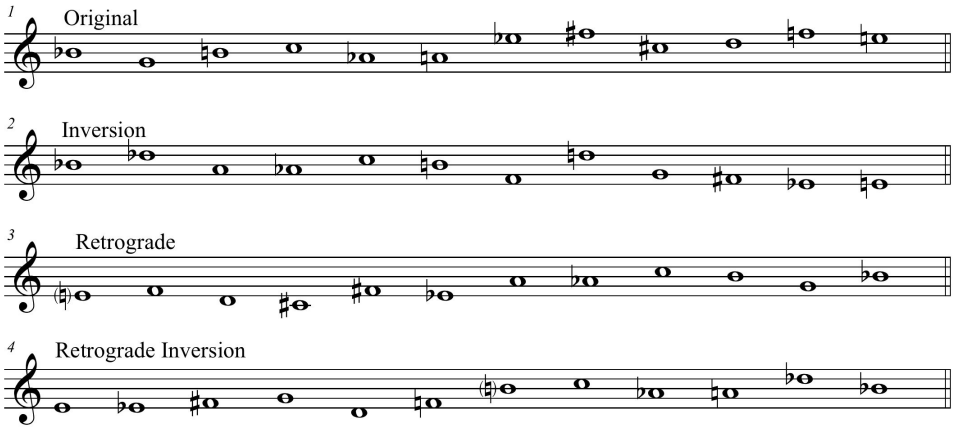


4 Implementation of the row

- The Row has four shapes
  - : ‘O’ for original (sometimes indicated ‘P’ Primary)
  - : ‘I’ for Inversion
  - : ‘R’ for Retrograde
  - : ‘R.I. for Retrograde Inversion

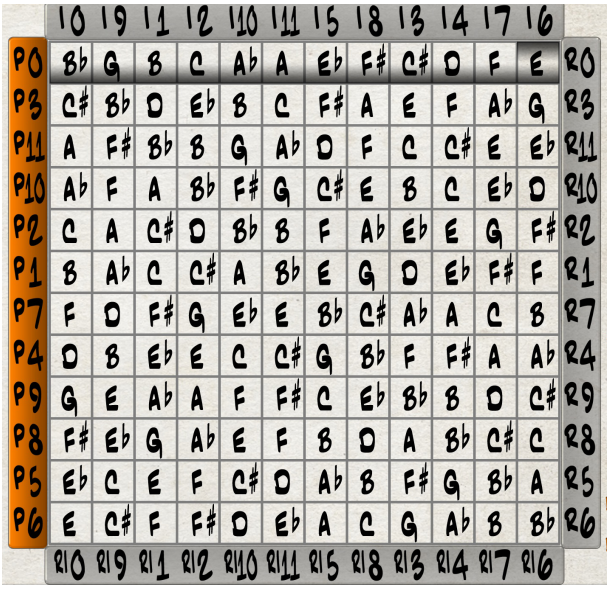
- With decision of the 12Tone Row (whether analyzing or composing) the three other forms that the row takes are written out
  - : Intervals must remain accurate in sound but enharmonic notation may occur
  - : Some theorists prefer numbering the retrograde forms from 1 – 12 rather than 12 – 1
    - – Composers differ in handling of the row
    - – Good to remember when complex switching of plans may occur that both numerical orders are possible

From Pg 472 Ex 430 (Tone Row Example)



5 The Matrix

- Complete matrix (tone row Pg 472 Ex 430



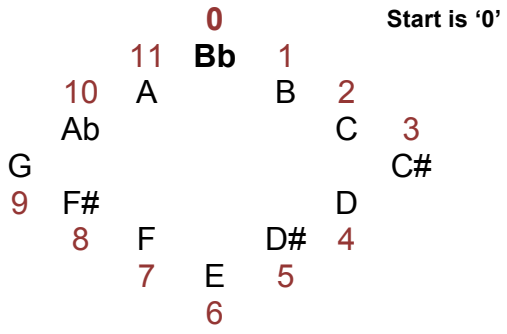
- Construction

Tone Row with Pitch Class Numbering

0	9	1	2	10	11	5	8	3	4	7	6
Bb	G	B	C	Ab	A	Eb	F#	C#	D	F	E

: Pitch Class

– Circle of chromatic ½ steps based upon chosen starting note

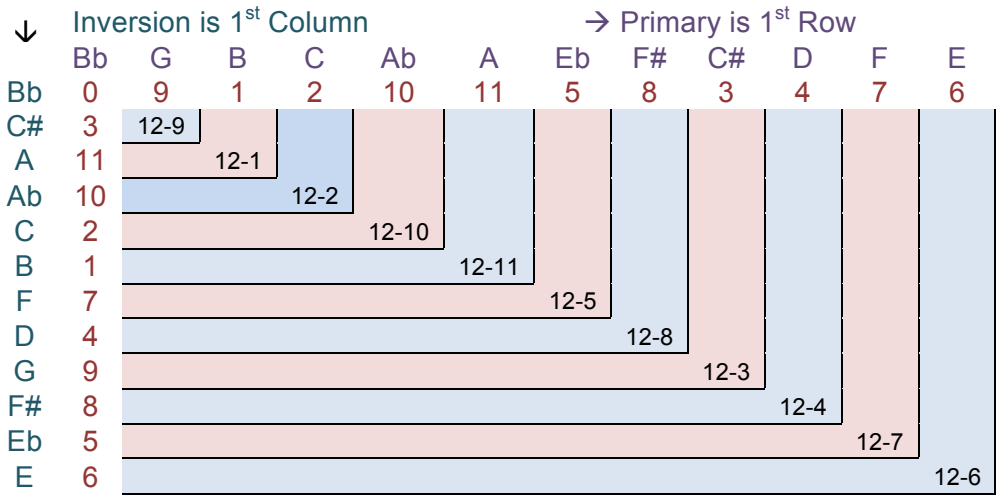


P0 is Top line of Matrix Grid →

Numbers from Pitch Class Grid

0	9	1	2	10	11	5	8	3	4	7	6
Bb	G	B	C	Ab	A	Eb	F#	C#	D	F	E

Letter Names



Inversion is calculated by 12-P0 row

Pitch Class Numbering

: To fill in remaining rows

- Add 1st column with P0
  - + If sum less than 11 retain
  - + If sum is more than 11 must *subtract* 12
- Continue with 1st number adding with P0 row and subtracting 12 if more than 11

Bb	G	B	C	Ab	A	Eb	F#	C#	D	F	E
0	9	1	2	10	11	5	8	3	4	7	6
3	0	4	5	1	2	8	11	6	7	10	9
	(3+9) -12	3+1	3+2	(3+10 -12	(3+11) -12	3+5	3+8	3+3	3+4	3+7	3+6

- Completed Matrix

0	9	1	2	10	11	5	8	3	4	7	6
3	0	4	5	1	2	8	11	6	7	10	9
11	8	0	1	9	10	4	7	2	3	6	5
10	7	11	0	8	9	3	6	1	2	5	4
2	11	3	4	0	1	7	10	5	6	9	8
1	10	2	3	11	0	6	9	4	5	8	7
7	4	8	9	5	6	0	3	10	11	2	1
4	1	5	6	2	3	9	0	7	8	11	10
9	6	10	11	7	8	2	5	0	1	4	3
8	5	9	10	6	7	1	4	11	0	3	2
5	2	6	7	3	4	10	1	8	9	0	11
6	3	7	8	4	5	11	2	9	10	1	0

Bb	G	B	C	Ab	A	Eb	F#	C#	D	F	E
C#	Bb	D	Eb	B	C	F#	A	E	F	Ab	G
A	F#	Bb	B	G	Ab	D	F	C	C#	E	Eb
Ab	F	A	Bb	F#	G	C#	E	B	C	Eb	D
C	A	C#	D	Bb	B	F	Ab	Eb	E	G	F#
B	Ab	C	C#	A	Bb	E	G	D	Eb	F#	F
F	D	F#	G	Eb	E	Bb	C#	Ab	A	C	B
D	B	Eb	E	C	C#	G	Bb	F	F#	A	Ab
G	E	Ab	A	F	F#	C	Eb	Bb	B	D	C#
F#	Eb	G	Ab	E	F	B	D	A	Bb	C#	C
Eb	C	E	F	C#	D	Ab	B	F#	G	Bb	A
E	C#	F	F#	D	Eb	A	C	G	Ab	B	Bb

- Transposition
  - Each of the four forms of the row (O, I, R, R.I.) may start on any of the 12 tones
    - Adds 44 exactly transposed forms of the row to those given
    - Totals 48 possible pitch lines
    - No extraneous tones may be added to any part of the row
    - No tones may be omitted
- Rhythmic Characteristics
  - The use of divided rhythms which tend to eliminate the beat and the bar line by holding tones over the expected pulse
    - Compared to an exaggerated form of syncopation
    - Syncopation is well defined by the 'beat'
    - Here the beat is nullified by a large number of suspended tones
    - Schoenberg's characteristic trait
  - The row is generally stated in a straightforward manner in the first phrase
    - May contain a lower voice or any form of row for the bass
    - Should not be hidden in techniques that are later permitted during the development section
  - Meter changes are apt not to be required in great abundance as the rhythmic division in a 12Tone system smothers the bar line instead of demanding one
- Melody
  - Wide leaps are characteristic of tone row melodies
  - Nothing in the technique insists upon them and seems more of a general trait of contemporary composition
- Dynamics
  - Sharp dynamic contrasts are also characteristic of serial pieces
  - Brings the short motives into greater relief by sudden dynamic change
  - In later expansion of serialization, rhythmic patterns and dynamics may also be organized into service

C. PROCEDURES FOR USING THE FORMS OF THE ROW

1 Strict approach

- The row may weave up and down fulfilling melody and bass during its *accurate* horizontal direction

- Stacked intervals

  : Doesn't matter which interval is higher
  : New motives or figures are formed by this technique

Following Ex431a 5→7

- Forms of the row may overlap

  : Can start any place to overlap previous row use
  : O,I,R,R.I can overlap exits and entrances at *any* point

Following 431a measure 7 (exit O → entrance I)

- Selection of row form

  : Based on desire to repeat a pitch
  : Or to positively avoid one

- Row may be divided so that a latter group of 'numbers' moves simultaneously with a beginning division (divisions need not be equal)

Following 431a measure 7→8

- Motives and rhythmic patterns do not need to coincide with starting or ending tones of the row

Following 431a measure 8

  : In lengthier compositions new motives may appear formed by numbers that are not in the numerical order of the row
  : Tones that are dropped are located in an accompaniment position

- An elision of pitch and number is used frequently if 12^{th} note is the same pitch as the 1^{st} note of the next form of the series this starts the next row form with last note of the previous row form

Following 431a measure 9

- Different forms of the row ma coexist as contrapuntal lines Canonic treatment of the series is equally useful

Following 431a measure 9

- Vertical placement of tones from the row provide the chordal punctuation

Following 431a measure 11

: Generally the divisions are maintained A chord of 4 tones would contain 4 notes of a numerical order
: Other formations nevertheless do occur

  - Tones of all odd numbers may be selected for one chord and resolved into the even-numbered tones
  - In chord itself the tones need not be arranged in any particular way

- A horizontal melody line does not necessarily signify that only one form of the row is contained within → Tones of several rows may overlap, cross parts, or interject, their numbers into an existing form

Following 431a measure 13, 15, 17

- The row does not need to remain in its original horizontal layout

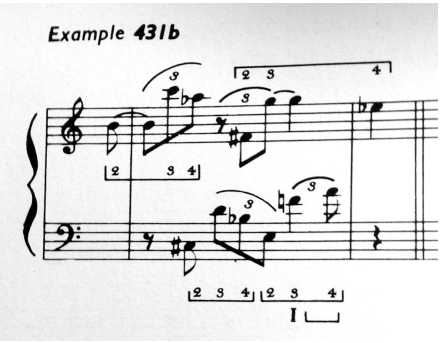
: Tones can be struck prematurely but *retained* during their expected placement

Following 431a measure 18

: There planned mutations – as a developmental aspect – are generally used in the body of the composition

- Divisions of the row may be utilized in place of the full horizontal intervallic relationship

: A motivic substitute can be used by transposition so as to include and not repeat all twelve tones



Easier to plan and work out complicated mixture of rows than it is to detect what is going on from the 48 varieties of rows

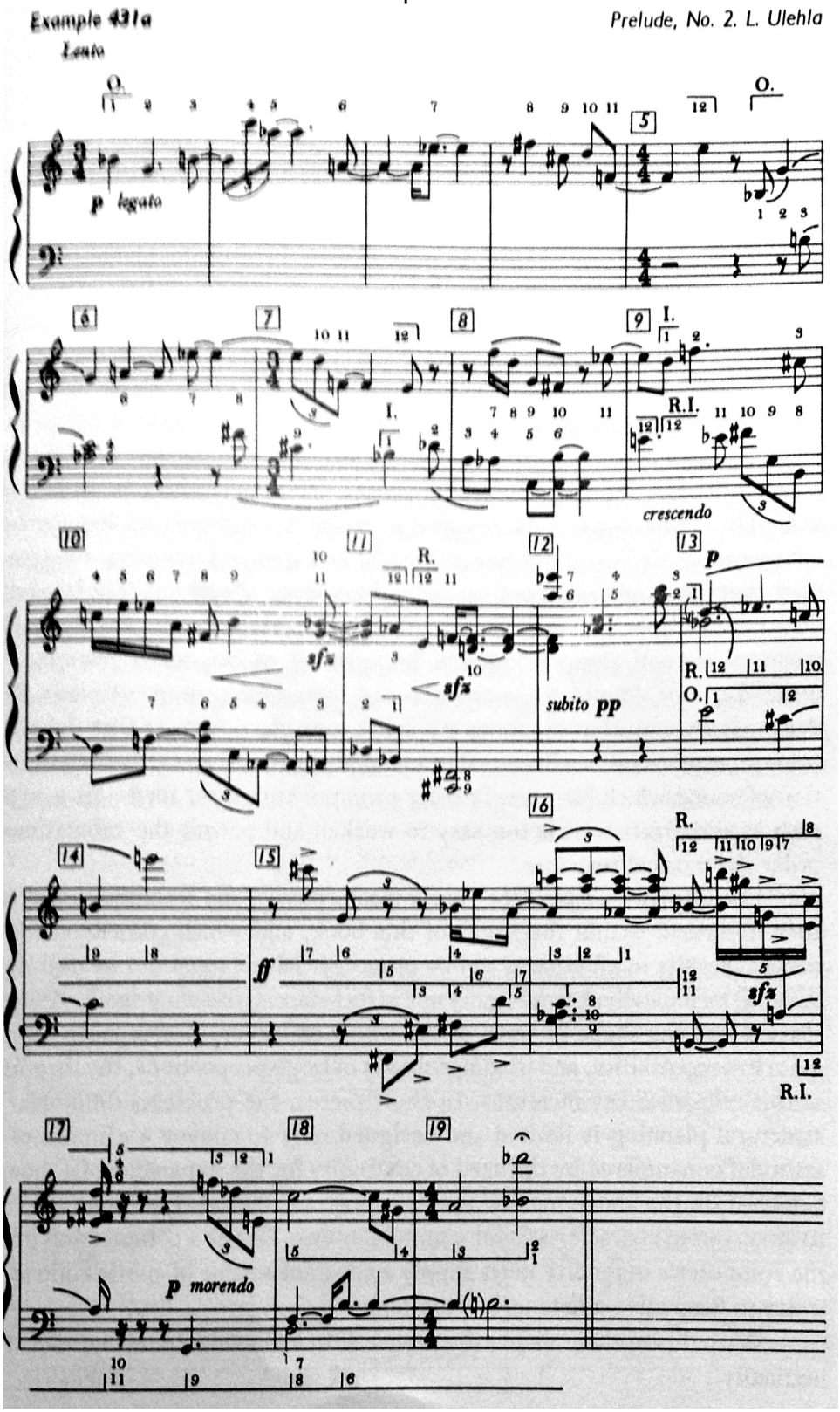
: Intervals of the motive sometimes may not (of necessity) be retained precisely

: The utilization of the twelve tones supersedes a particular order

: In complex situations

- Desirable to attempt to spot certain intervallic groups
- Gives clue as to design being used
- If some divisions become recognized
  - + Look for the remaining tones
  - + Look for sequential adaptations of motivic material

Example 431a



II A LEXICON OF NOTES OR MUSIC?

A. PERSONAL REACTION TO THIS IDIOM VARIES FROM 'INTENSE' DISPLEASURE TO 'WONDEROUS' ADMIRATION

1 Critics of the System treat it as a game of numbers
2 Proponents state that the numbers are only a tool in the composer's pocket
3 In a system such as serialization it is too easy to 'weaken' and 'permit the tabulations to order a musical response

The issue of art does *not* rest upon the **method** of creation *but* the **result**

- Planning is *not* restricted to an arrangement of pitch
- What matters is that the artistic composer impose *his* will upon the notes in search of sound prompted by the 'inner' ear
- Music must not be dull rhythmically, melodically, or harmonically In its balanced use of motives, dynamics, texture, and form
  - : Compositions of large proportions require more responsibility than short pieces
  - : The composer's ingenuity must supply a constant source of subtle contrasts in order to keep the listener's attention

B. CONSIDERATIONS

1 Rhythmic Interest

- Plan of increased activity accelerated to a goal
- Longer valued rhythms help define cadences and phrases providing contrast to climactic approaches

2 Melodic Interest

- Apply the principle of directional tones
  - : The row provides connecting pitches
  - : Skill is in constructing an overriding contour to melodic passages
- Examine serial compositions beyond the measure level to melodic shape in phrase, the larger contour of section, and the composition as a whole

3 Motives

- Motive is evident only if the phrase emphasizes it along with a *meaningful* response
- Can be rhythmic impetus
- Use of augmentation and diminution
- Rhythms can be inverted

4 Dynamics, Texture, and Form

- Combine to expose all of the motivic material
- Dynamics 'uphold' the structure of the form

5 Regarded as ATONAL

- In theory emphasis on all 12 tones creates a state with no tonal focus
- In reality tonal focus is difficult to avoid
  - : Most small collection of intervals focus on a particular pitch
    - – Avoid recurring emphasis on particular pitches
    - – Avoid interval root reinforcement
- Series of pitches is also a series of intervals
  - : A row can be designed to emphasize certain intervals
  - : Symmetrical pattern created by P0 in first half of row & R0 in 2nd half
  - : Order in decreasing size
- Notes in a row can be distributed between two or more voices
  - : In any octave
  - : Sounded one at a time or together
  - : Row can appear in melodies, accompaniments, conversational flows, or counterpoint
- More than one row can sound at a time
  - : Rows can overlap
    - – After another is completed
    - – On last note of previous row
  - : Can create 12Tone aggregate with simultaneous row use (unordered collections)
  - : Can select row forms that emphasis particular properties of the row

Seldom use all 48 possible forms rather a few that emphasis particular qualities

C. LIMITATIONS

1 Large compositions must achieve unity on a 'large' scale providing drama and excitement in the contained material

2 The 12-tone miniature is relieved of the need for 'large' scale contrasts

- May combine short pieces to form a larger unit
- Must show ingenuity and imagination in succession of ideas

3 Characteristic qualities of rhythm are the limitation

- There is nothing in the tone row to prevent 'ingenuity' rather rhythm is the limiting factor

- Beat and bar line are frequently nullified
    - Produces rhythmical divisions without the physical feeling of pulsation for the listener
        - Intriguing and may be desirable but produces only one effect
        - But without pulsation what is the tempo?
        - What contrasts can succeeding compositions rely on

4 Rhythm is the ingredient that is largest factor in shaping the whole composition

- Reaction to motives is through rhythm
- Harmony requires a varied rhythmical execution
- With rhythmic vitality abandoned for any length of time all other musical qualities suffer

III ATONALITY

A. DOES IT EXIST?

1 Literally means 'without tonality' what it should mean is 'without a diatonic *concept* of tonality'

- Rashly applied to anything that sounds different from the familiar harmonies
- Has implications in atonality that tonality exists either in a diatonic concept or not all
- Schoenberg offered term 'pan-tonality' rather than apply atonal to serialism
    - Suggests a common bond or union of all tones
        - A contrast to previous statements
        - This is a change from a negation of any merging of pitches to an *incorporation* of diversified tones
    - Real issue is not 'words' but in the presence or absence of any form of tonality in compositions using the 12-Tone scale
    - But the 12-Tone scale is inclusive of both the compositions adhering to serialization and those of an equally 'dissonant mien' which do not use a tone row

2 When first Serial compositions were heard, the sounds were so unfamiliar that tonality may have honestly disappeared

- Today we are more accustomed to advanced forms of dissonance so it doesn't obliterate the tonal content
    - Dissonance is no longer a novelty it is accepted
    - Now the 'large' path of tonal movement is sought

- Music will not turn back the clock
    - : Contemporary composition utilizes all 12 tones
    - : *But* not established that by using the 12-Tone scale all tones emerge unrelated and produce Atonality
- 12-Tone Row is constructed with the aim of composing with tones 'related' only to one another
    - : On paper this is true
    - : *But* in a musical phrase all tones are <u>not equal</u>
    - : The row placed in a musical context is *not a substitute* for tonality
    - : *But* contains the nucleus of a tonal development
- Similar to any classical process the row is used as a theme and subdivided into motives
    - : Rhythmic stresses give attention to select group of pitches
    - : The pitch contour formed by phrase produces some tones of prominence with others in a supporting role
    - : Harmonies contain roots without requiring a diatonic tertiary order
- These are the new developments recognized 'today'
    - : Seemed entirely enveloped by the tone-row system of previous decades
    - : Tonality of today is not one that necessarily centers on one central tonic for the entire composition
        - – Shifts tonal centers at will
        - – All twelve tones may take on the equivalent role of the 'former' tonic
        - – This 'equivalent tonic' will assume a position that governs all twelve tones
        - – Each of which may hold reign above the others at anytime
        - – Tones will start a phrase, climax the contour of a phrase, or become part of a cadence
        - – All contribute toward the movement within the phrase (they lead somewhere)
            - + The recipient of that motion has more tonal power
            - + Certain tones dominate others and produce a *unification* within the composition
        - – Tonality here is fleeting but there is tonality
            - + It is not in the form of one dominating key
            - + As a transient assortment
            - + May include all twelve tones in rotation

3 Label for this 'new' form of *tonality* is elusive

- Atonal is too convenient as term eliminates any searching investigation for tonal structure
- Parts of both Classical and Contemporary idioms that show a lack of tonal direction (of a feeling of belonging to a particular tonality)
  - : Contemporary composition uses more of this technique
    - – Measures and phrases may be transient and await a firmer foothold
    - – Directional tones may supply motion equivalent to the chromatic chords of the 19th Century
      - + This motion must cease with a cease with a cadential pause
      - + Not a harmonic one necessarily
      - + The tone or group of tones receiving such motion has a temporary settling quality
      - + This is the one around which the others revolve
- Contemporary tonality is based on a progression of sound directed by prominent tones and affected by the vertical increase or decrease in tension
  - : One central tone may be established governing all 12 tones inclusively
  - : A changing order may set up tonalities which govern sections of a composition rather than the whole

B. NOTATION

1 Part of confusion occurred because notation reflected an *arbitrary* choice of tone rather than one which would bind tonality

- Aim of tone row was to avoid a diatonic relationship
- Resulted in frequent (unintentional) disregard for acoustical blending of tones

2 Best notation is one which provides the most clarity

- In terms of a tonal understanding
- For ease of execution

What was necessary early in contemporary period for clarity in execution are not today

C. RELAXING THE 'RULES'

1 Over time the theoretical doctrines which were imposed were gradually relaxed to permit a more individual creativity

- The acceptance of repetition of *tonal groups* within the row
- In early stages brief neighboring tones, trills, and tremolo repetitions were permitted as unessential permutations
  - : Insufficient for a composers desire for a greater stability of sound
  - : Found some motives 'preferred' repetition to sequential treatment

- In harmonies a *purposeful* return to a preceding chordal combination provided an extension of sound, a more climactic force for any part of the phrase
- This process did not entirely abandon the row's basic organization

Need for pitch repetition was recognized even within the strict row technique

2 Repetition of motivic groups or any small groups of consecutive horizontal 'numbers' came as an inevitable by product of certain row procedures

3 Factors which led toward more tonal stability

- Selectivity of the forms of the row which contain chordal or tonal outlines
- Pitch retention for transposed series or rhythmic restatements
- Repetition of a motive to 'hold the reins' of tonal movement
- Fragmentation of the row without immediate following of a horizontal succeeding of tones
- Tonalities can remain stable for longer duration with certain tones given prominent position as unifying representative of tonality (Needed particularly for a large work)

There is no shortcut to the analysis of music (serial or otherwise) if on is to separate the artistic achievement from mathematical formula

4 Composers today assert their own individuality upon the tone row

- Removes some of the earlier characteristics of serialization
- To the listener it is not one which can be immediately defined as serial
  - : Contains all of the harmonic dissonance of the serial technique
  - : But does not employ the actual row techniques
- Difference between a free expression of ideas based on a tone row and creative approach which plans themes and motives controlled without the mathematical aspect is indiscernible
  - : Works plan of development may be bound with a concept of intervallic relationship
  - : But not necessarily in the method previously employed and prevailed by Schoenberg

N.B.

It is not the intervallic design that makes the music. Rather, it is the inspiration and creative ingenuity – the notes themselves are incidental – what matters is whether they have expressed an artistic entity

IV A Summary of Procedures for Contemporary Analysis

1. Listen – no substitute for true listening
2. Do not scrutinize the small details before a general impression of composition or movement is understood
3. Do not feel that a label must be attached for form for form to exist
4. Choose the right type of analysis for each particular phrase
5. Do not attempt to account for or explain every note
6. Do not juggle the tones, consider linear or harmonic elements in the exact register in which it occurs
7. Always retain a rhythmic perspective as to the value of tones
8. Tonality

   : Let music first suggest a tonal anchorage before seeking a tonal center
   : Tonality is flexible and need not be tied to a central tone
   : Linear tonality replaces the harmonic tonality of former periods
9. Progression

   : Movement of root tones replaces progressions of total chords
   : All twelve root-tones may move independently
   : Relate the important tonal roots to a central tone
   – If it exists
   – Or to a changing flexible design equivalent to a large-scale, modulatory root progression

   : Root tones are derived
   – From linear movement as well as vertical formations
   – Outer voices generally predominate in the root suggestions
10. Be forward looking

    : Electronic instruments
    : Improvisational composing
    : Use of new instruments
    : Unique combinations of instruments
    : Quarter tone ideas

It is not necessary to understand the composer's trade in order for 'his' music to communicate esthetic expression. What is necessary is a willingness to listen

Don't bring prejudices of past generations to act of listening accept the new sounds on their terms