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Part I

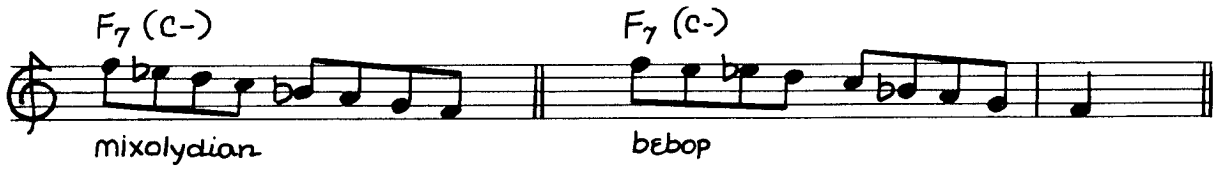
THE BEBOP SCALES

From the early 1920s, jazz musicians attempted to make their improvised lines flow more smoothly by connecting scales and scale tones through the use of chromatic passing tones. In a detailed analysis of more than 500 solos by the acknowledged giants from Louis Armstrong through Lester Young and Coleman Hawkins, one is aware, first, of the increased use of scales (as opposed to arpeggios and chord outlines) and then the increasing use of chromaticism within these scales. An unusual fact about this increased chromaticism is that, despite the frequent re-occurrence of certain licks or patterns, no discernible design with regard to how the extra chromatic tones are added emerges. The overall impression is a somewhat arbitrary or random use of chromaticism.

When one listens to the great players from the distant and near past, one of the main things that tends to "date" their playing (aside from technological improvements in recording techniques, changes with regard to harmonic and rhythmic formulae, etc.) is this lack of unanimity with regard to the use of melodic chromaticism.

From his earliest recordings Charlie Parker can be observed groping for a method for making the modes of the major scale sound less awkward and for rendering them more conducive to swing and forward motion. Gradually, in a systematic and logical way, he began using certain scales with added chromatic tones. Dizzy, approaching the scales from an entirely different direction, began utilizing the same techniques for transforming them. These scales became the backbone of all jazz from bebop to modal music.

A study of a large number of representative solos from the bebop era yields a set of very complex governing rules that have now been internalized and are a part of the language of all good players in the bebop and post-bebop tradition. Very simply stated, the added chromatic tones make the scales "come out right." Play a descending mixolydian scale and then play the bebop version of the scale and see how much smoother the second scale moves.



There are a number of reasons why the second scale makes sense. First, in the second scale all of the chord tones are on down beats; and second, the tonic of the scale falls on beat one of each successive measure, and the fifth (C) falls on beat 3.

THE BEBOP DOMINANT SCALE

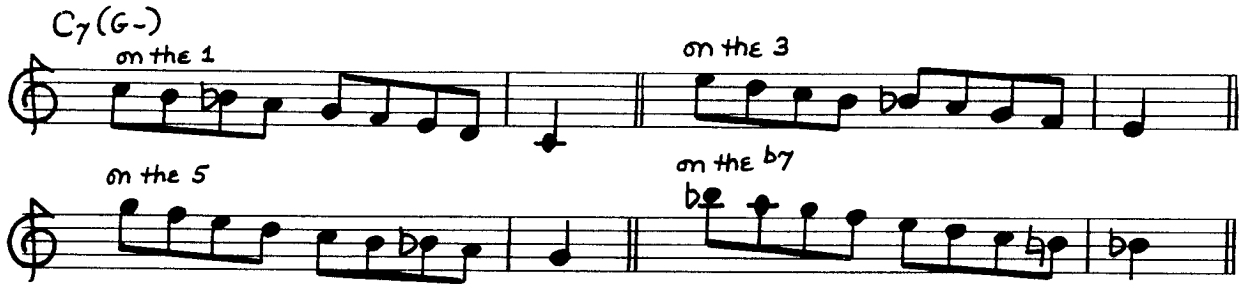
This scale is spelled 1-2-3-4-5-6-b7-♮7-1 and the rules governing its use are given with the dominant seventh chord as the point of reference. The scale is also used on the related minor seventh chord (II) and, under special conditions to be discussed later, on the related half-diminished seventh chord (VII), i.e. the following:

$$\left[\begin{array}{l} \text{G-} \\ \text{C}_7 \\ \text{E}\phi \text{ (under special conditions)} \end{array}\right] = \text{C-D-E-F-G-A-Bb-B}\natural\text{-C}$$

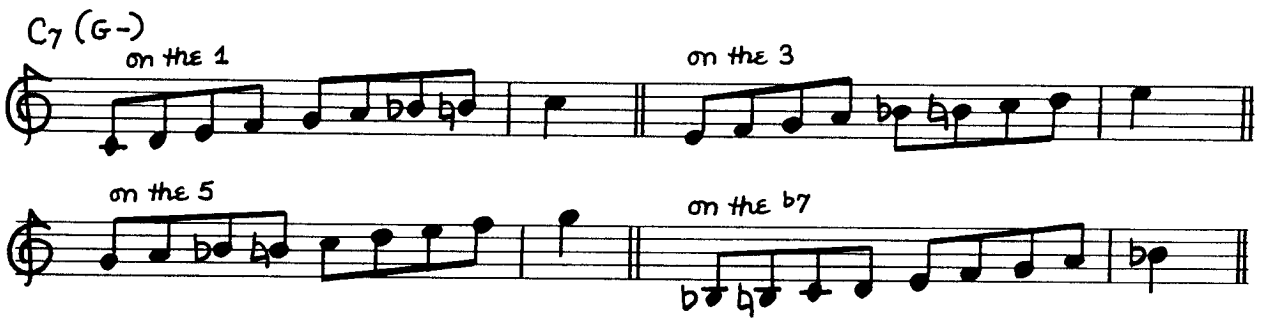
Rules

1. On a dominant seventh chord the scale is reckoned from the root of the chord, i.e., C_7 = C dominant (bebop)
2. On a minor seventh chord the scale is reckoned from the root of the related dominant seventh chord, i.e., G- = C dominant (bebop)

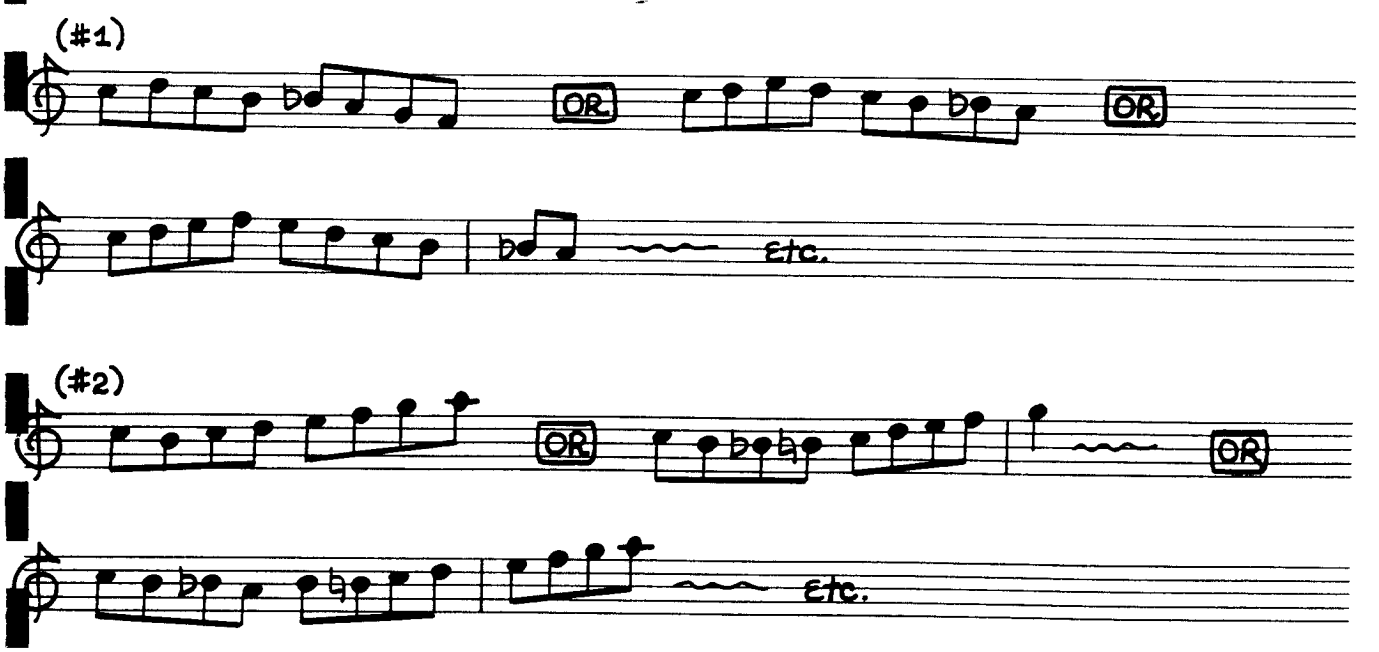
3. When conditions dictate the use of this scale on a half-diminished chord, its starting point is reckoned from the root of the two related dominant seventh chords, i.e., the following:
   Eø as a VII related to C_7 (V of F minor or F major), or
   Eø as a II related to A_7 (V of D minor or D major)
   This rule is fully explained in the section of this chapter entitled USING THE BEBOP DOMINANT SCALE OVER A HALF-DIMINISHED CHORD.
4. The scale usually moves in basic eighth-note patterns.
5. In pure form the scale invariably starts on a down beat.
6. In pure form the scale starts on a chord tone (1, 3, 5, or b7) of the dominant seventh chord.



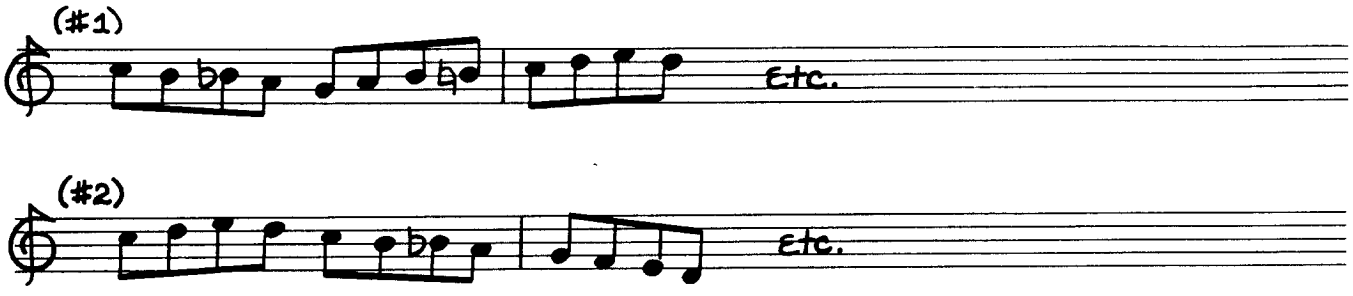
7. Often the descending form of the scale is used, but practice both ascending and descending exercises.



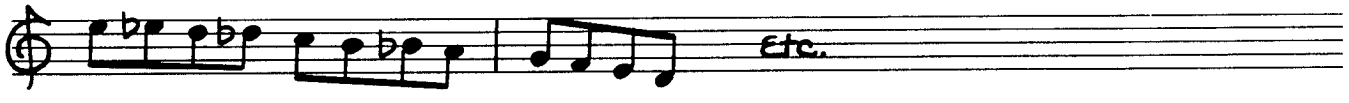
8. As long as the scale starts on a chord tone, the line may ascend (example 1) or descend (example 2) in a scalar fashion and return the same way.



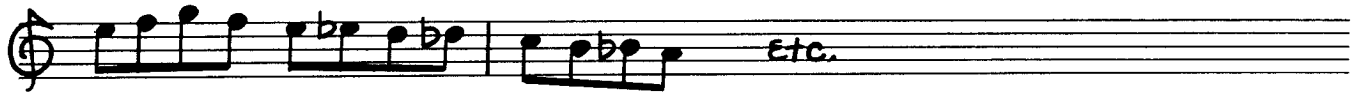
9. The line may also descend and then ascend in scalar fashion (example 1) or ascend and then descend in scalar fashion (example 2).



10. When the line starts on the 3rd, it may descend chromatically to the 6th, i.e., the following:

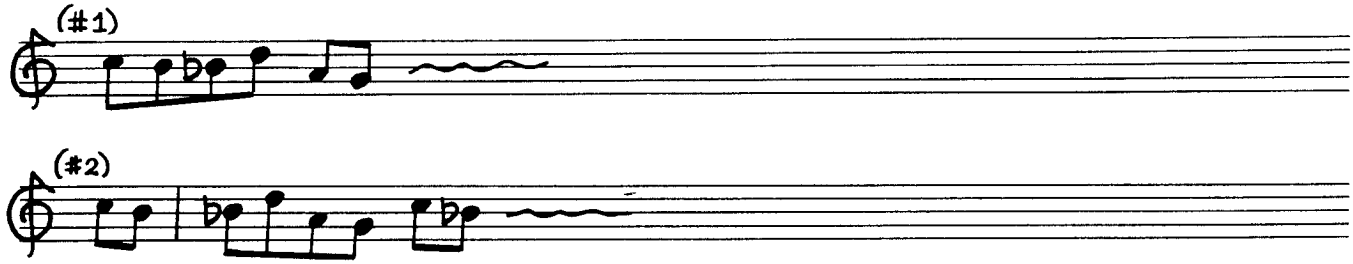


or ascend and then descend chromatically from the 3rd, i.e. the following:

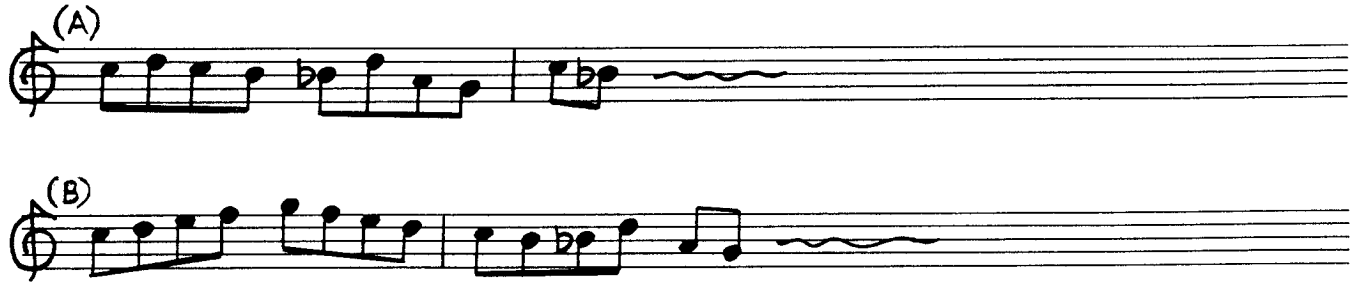


Endings

The endings of phrases are very important, and two particular endings appear with great frequency:

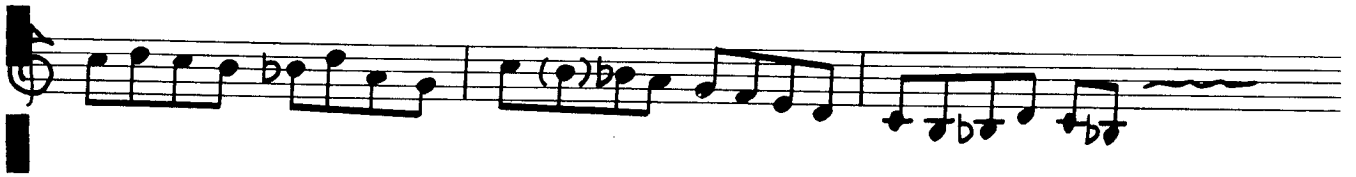


More often than not, phrases end on the upbeat of beats one or three, as in the following examples:

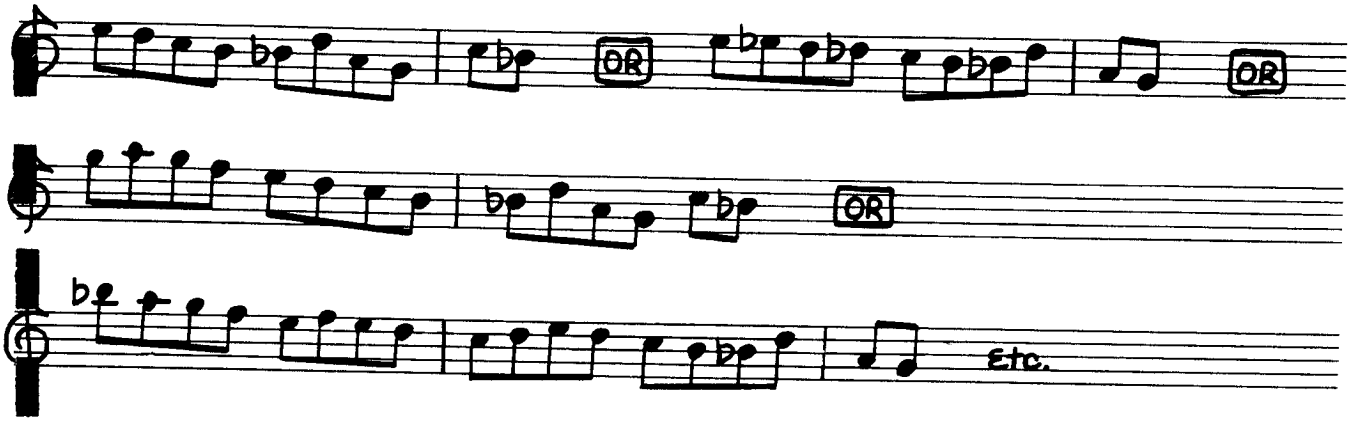


The line should use whichever of the two endings make this possible. Eventually the player will make this choice intuitively.

Please note that in examples #2 and #A the extra half step between the tonic and the b7 has been omitted. The rule governing this situation is as follows: if the line is ending, use a whole step as in examples #2 and #A; if the line is to continue, use the half step as usual, as in the following example:



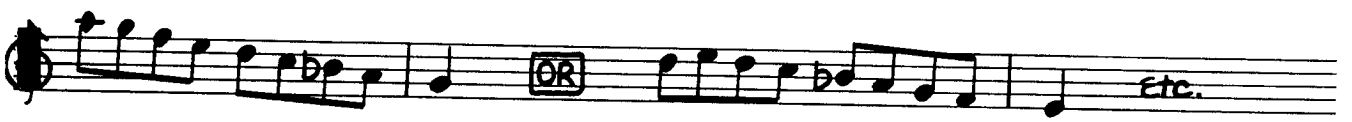
Practice the different endings starting on other chord tones, as in the following examples:



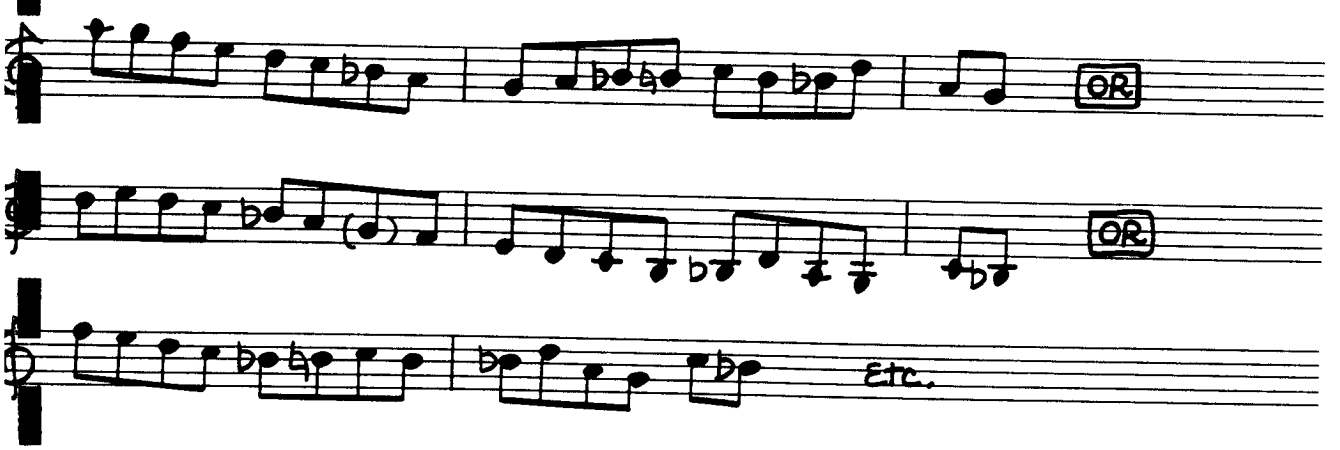
Starting the Scale on Non-chord Tones

When starting the scale on a non-chord tone many options exist. Some of the most frequently used ones follow:

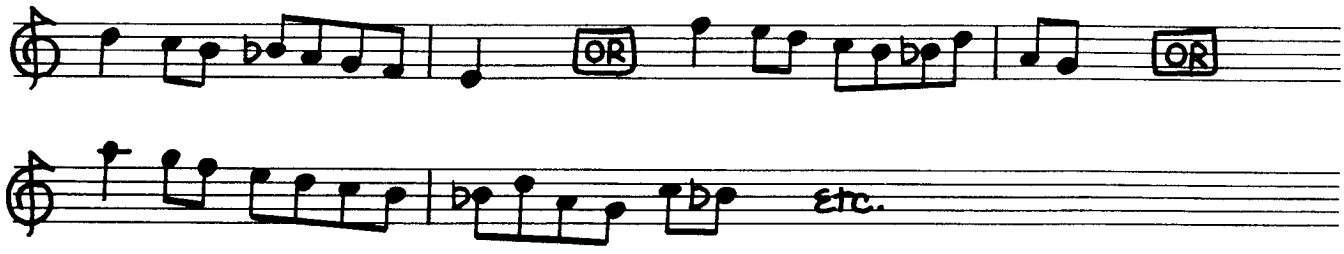
1. Use the scale without the extra half step, as in the following examples:



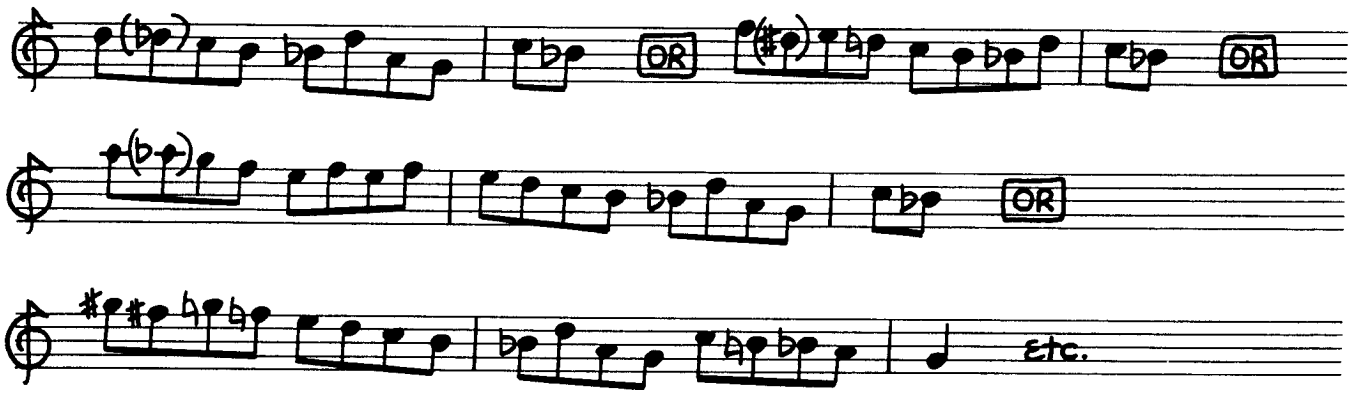
2. Use the scale without the extra half step until you reach the b7, at which time balance is restored and the previous rules are once more operative, as in the following examples:



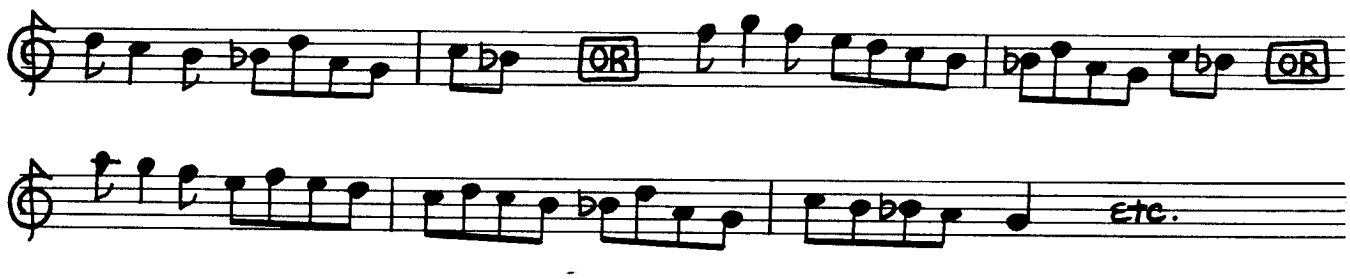
3. Make the non-chord tone a quarter note, as in the following examples:



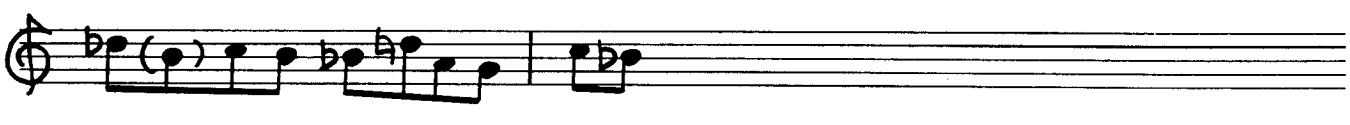
4. Insert a half step before the first chord tone you come to, as in the following examples:



5. Syncopate the first chord tone you come to, as in the following examples:

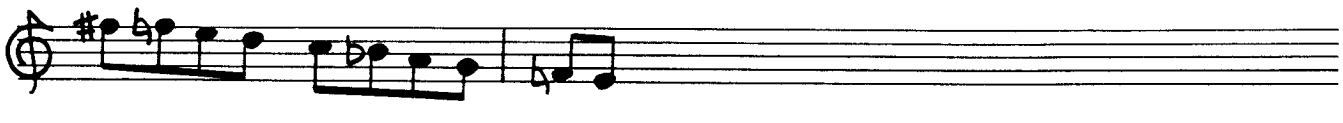


6. From the b2, approach the tonic from a half step below, as in the following example:

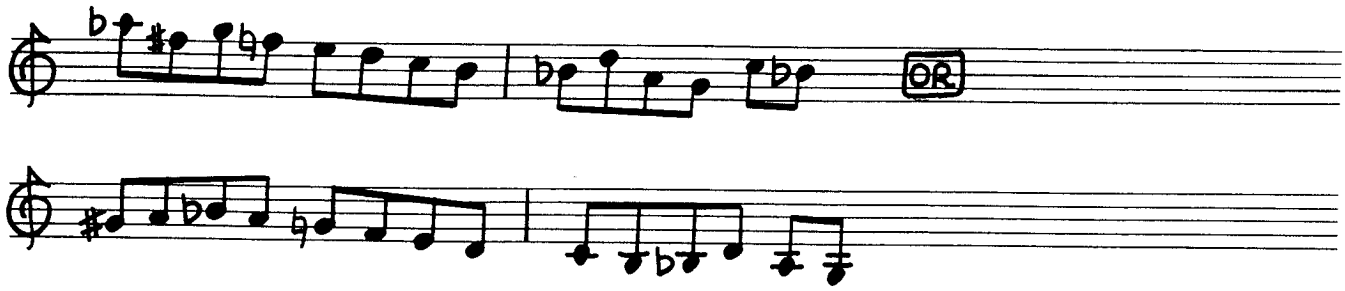


7. From the b3 approach the 3rd from a half step above, as in the following example:

8. From the #4 descend chromatically to the 3rd, as in the following example:



9. From the b6 approach the 5th from a half step below or ascend chromatically to the b7, as in the following examples:

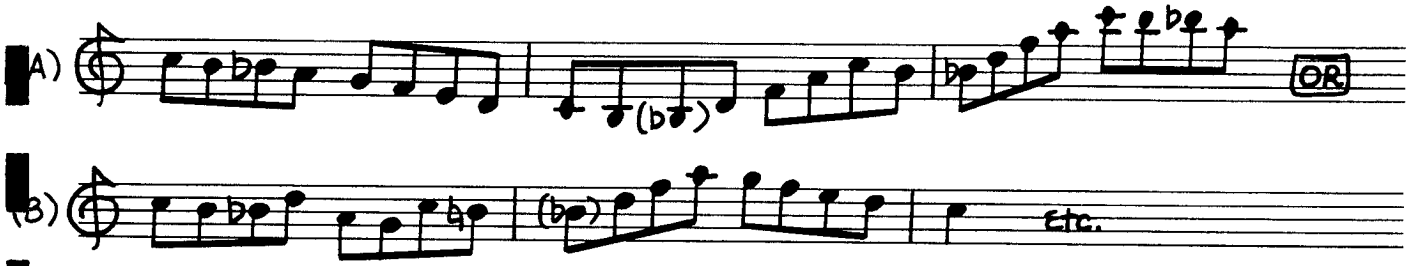


10. When the line starts with a chord tone on an upbeat, all of the preceding nine non-chord tone rules are operative since it places a non-chord tone on a down beat.
11. Generally, move by step, half step, or skip until a chord tone occurs on a down beat. All of the preceding examples exemplify this rule.

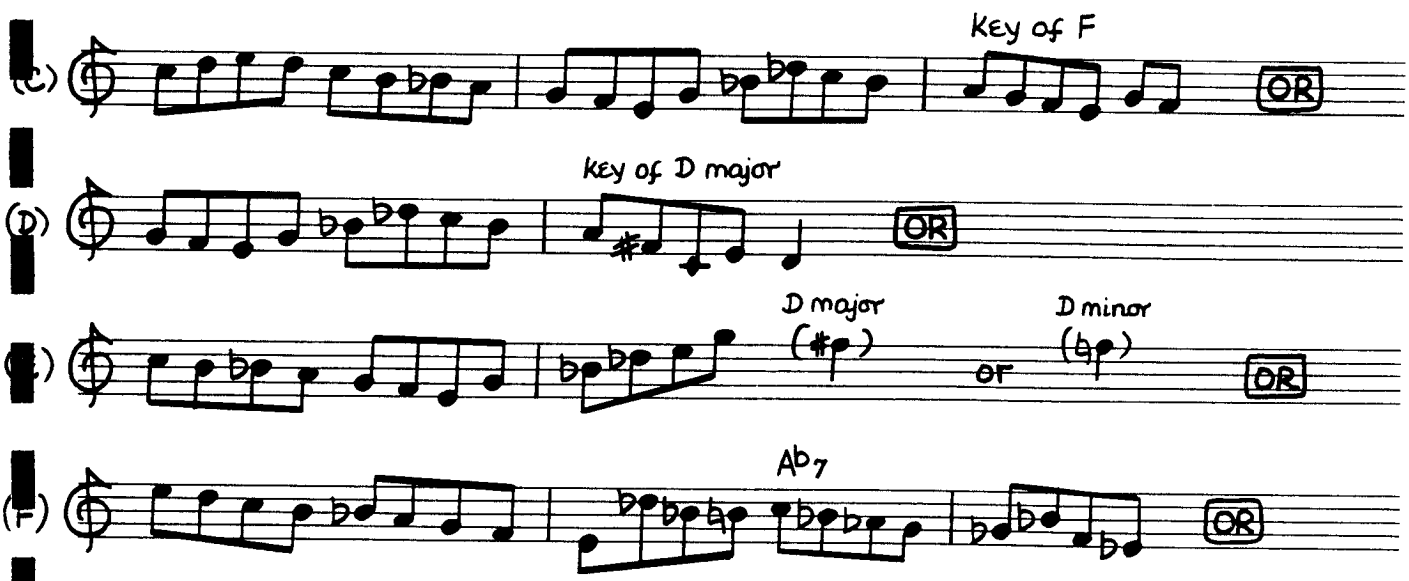
Extending the Bebop Line

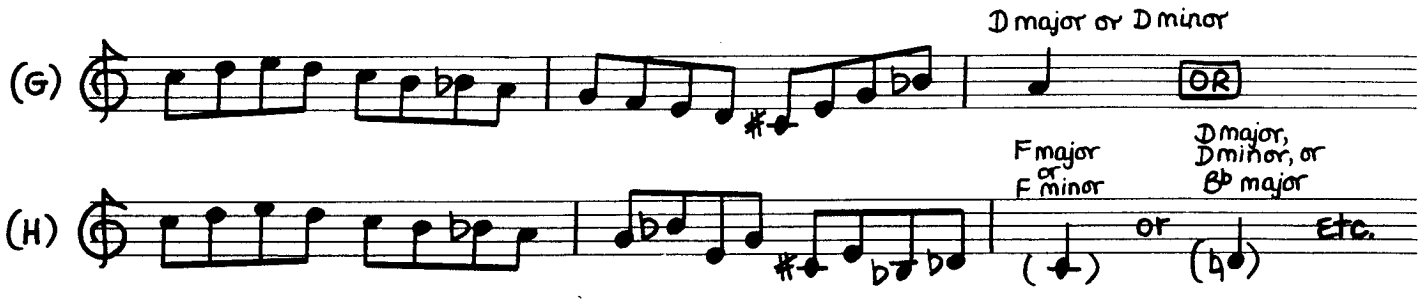
The bebop dominant scale may be extended through the use of a number of techniques which are a part of the common language of all good players. Some of the more common ones follow:

1. Upon arrival on the b7 the line may ascend along a major seventh chord (in this case $B\flat^{\Delta}9$), allowing for extension or change of direction, as in the following examples:

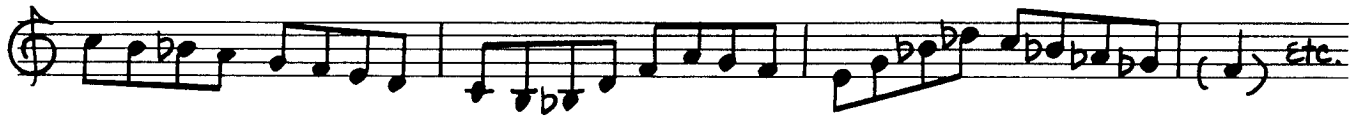


2. Upon arrival on the 3rd, 5th, or b7th, the line may proceed along the outline of the diminished chord containing that note, as in the following example (the diminished chord usually sets up a modulation):

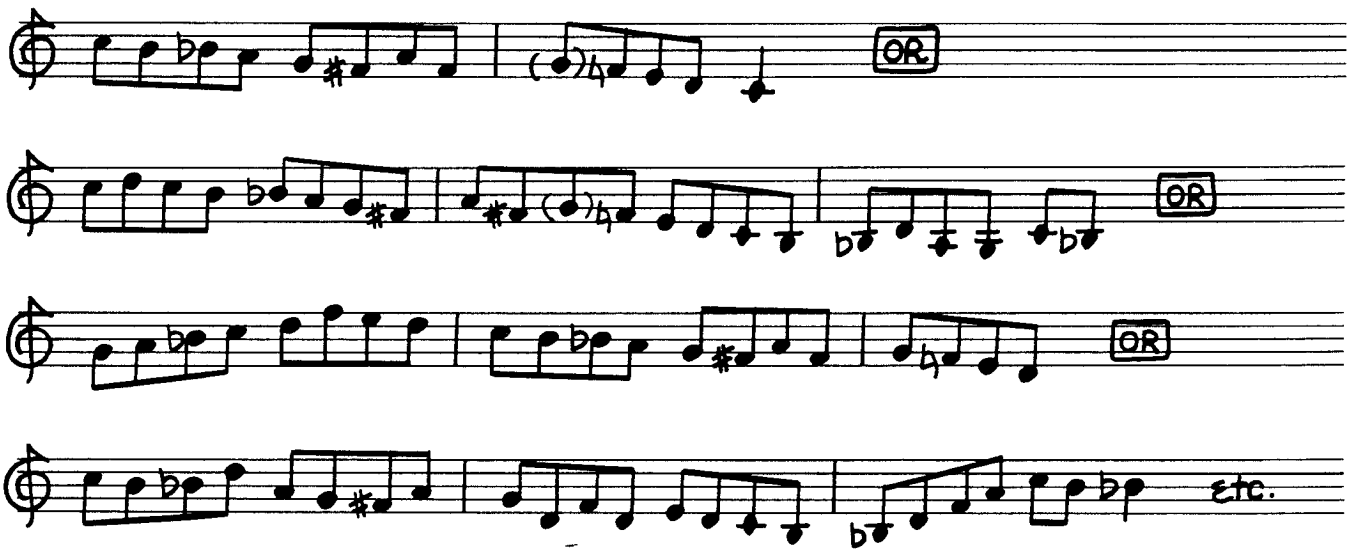




Examples A and B may be combined with examples C through H, as in the following example:

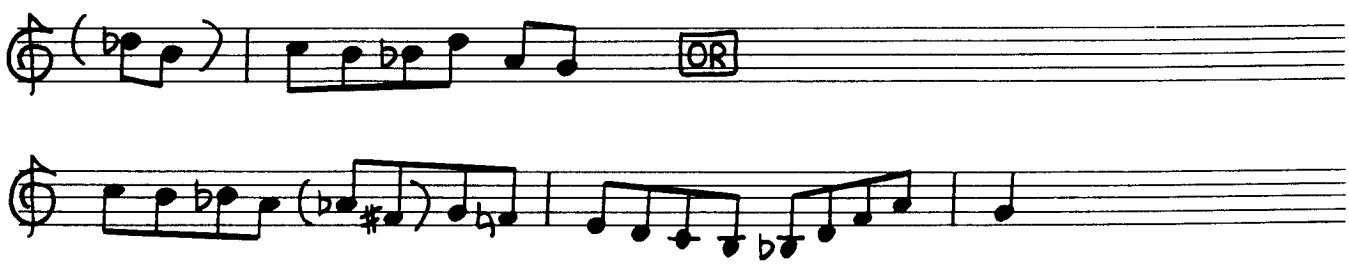


3. The bebop line may be extended through the use of what I shall hereafter refer to as deflection. When leaving the 5th of the scale, the line may be deflected in the manner of the following examples (make sure that when the line resumes its descent the 5th is on a down beat):

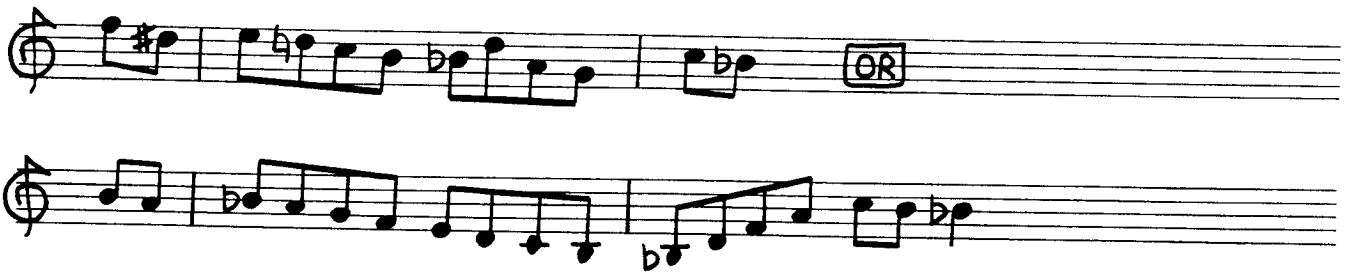


Enclosure

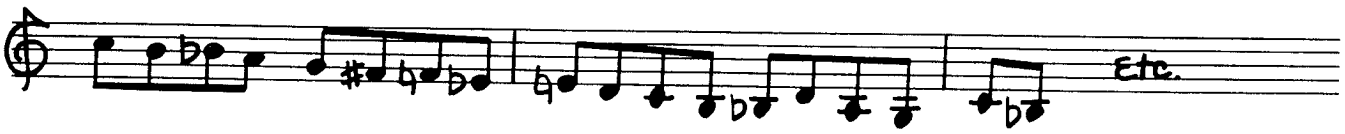
The bebop line may be extended by enclosing the root or the 5th of the chord. This is accomplished by delaying the arrival of the chord tone by inserting the notes one half step above and one half step below the tone in question, as in the following examples:



If the line originates from the 3rd or the b7th, the rule remains operative, as in the following examples:

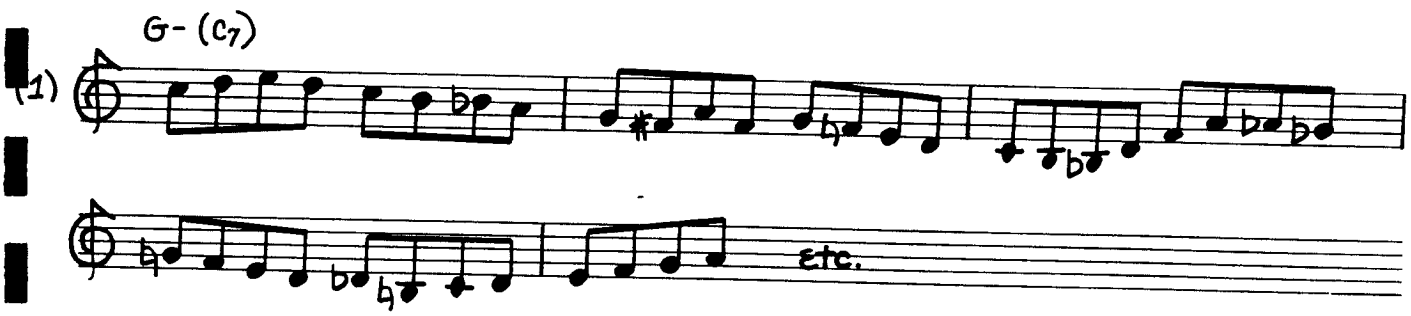


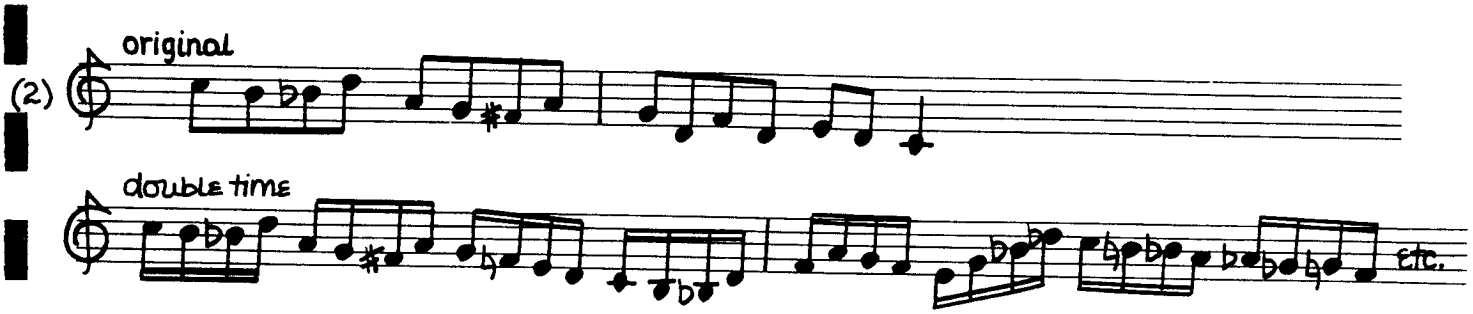
If the 3rd is to be enclosed within a line, start on the b5th, as in the following example:



Or skip from the 4th and return by half step, as in the following example:

These techniques for extending lines are particularly useful in modal situations (as in example 1, which follows), in double time passages where more material is needed to fill the same number of measures (as in example 2, which follows), and simply for variety.



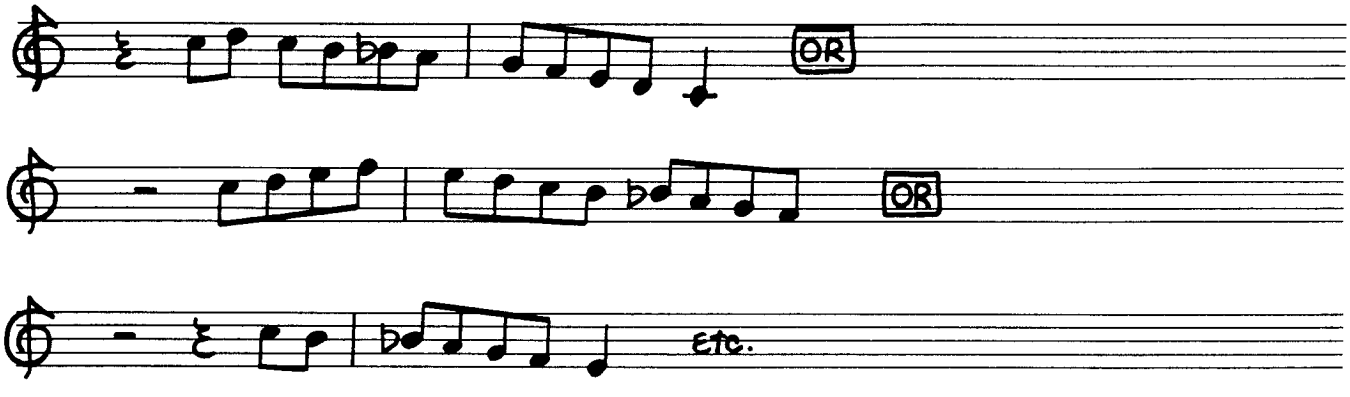


Examples of Enclosure in Actual Compositions

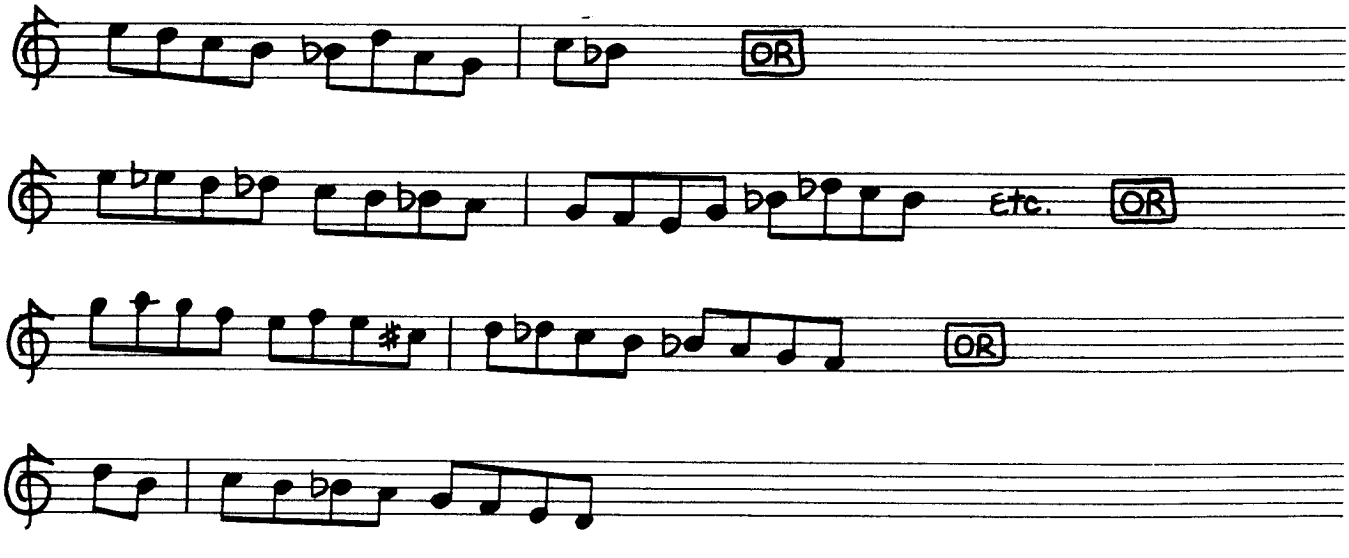
1. "Anthropology": measure 1, measure 7
2. "Bebop": introduction, measures 8-9; measure 8; measure 16; measures 18-19; measures 22-23; measure 32
3. "Confirmation": measure 7
4. "Donna Lee": measures 4-5; measure 13
5. "Groovin' High": pick-ups and beat 1, measure 4, measures 8-9, measure 12
6. "Little Willie Leaps": measure 4
7. "Nica's Dream": introduction, interlude, and tag
8. "Night in Tunisia": measures 7-8, measures 15-16, measures 31-32
9. "Ornithology": measures 13-14, measures 15-16, measures 29-30
10. "Quicksilver": measure 2, measures 9-10, measures 11-12, measure 50, measures 57-58, measure 59, measures 61-62
11. "The Serpent's Tooth": measure 1, measure 8, measure 25
12. "Woody'n You": measures 6-7-8, measures 14-15-16, measures 30-31-32

Achieving Variety with the Bebop Dominant Scales

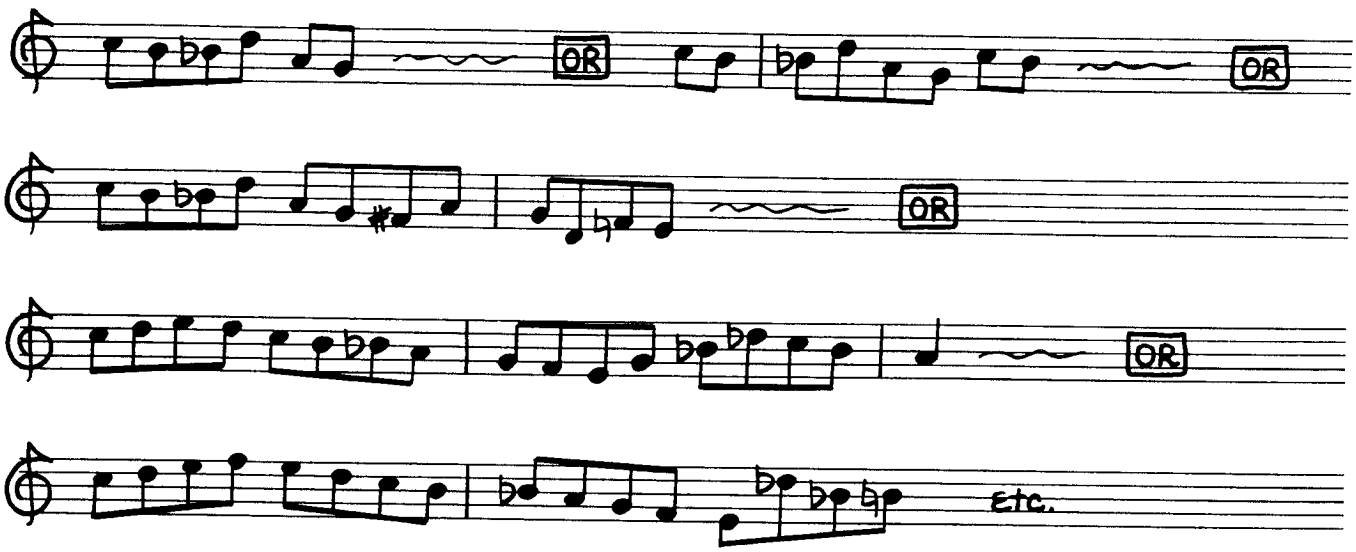
1. Start the scale on something other than the first beat of the measure, as in the following examples:



2. Vary the starting note (not just the tonic and not just chord tones), as in the following examples:

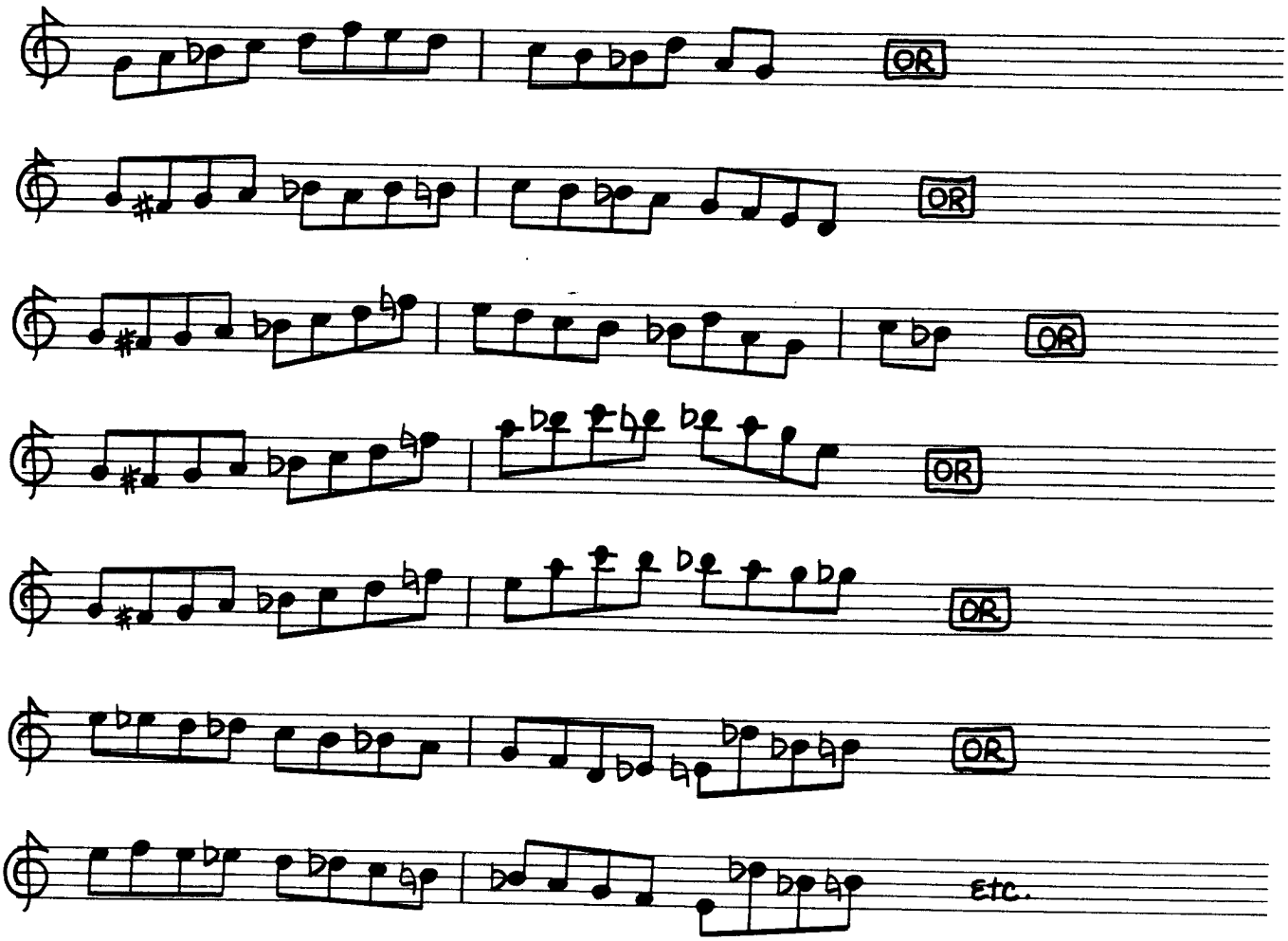


3. Vary the endings, as in the following examples:

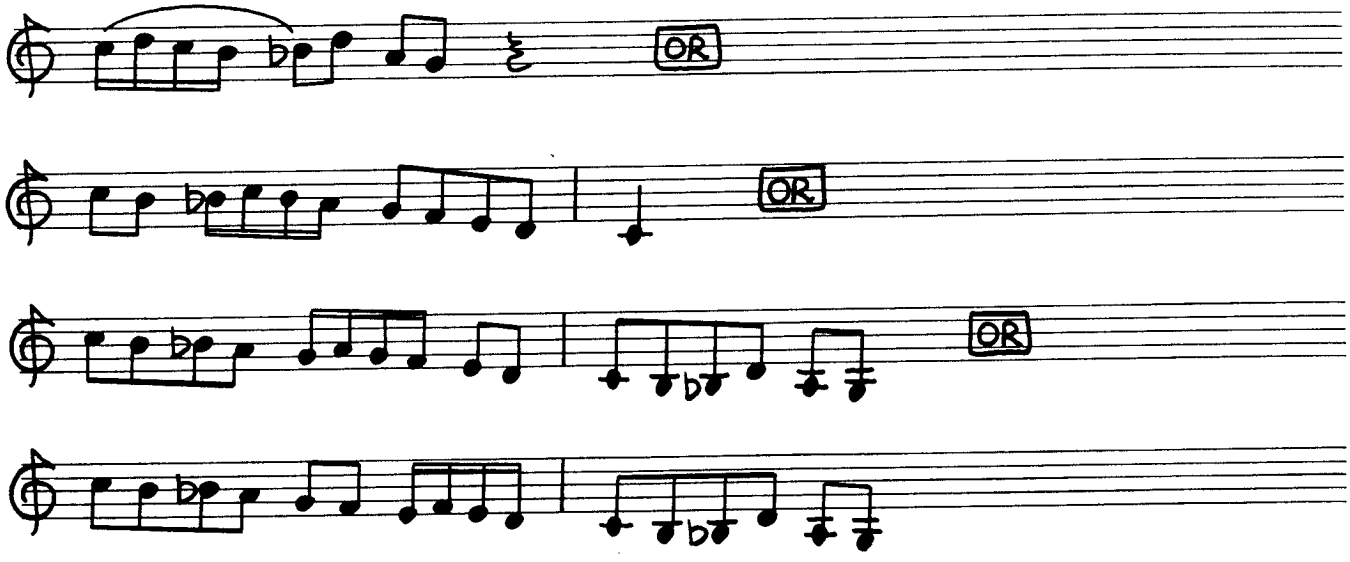


4. Balance ascending and descending motion, as in the following example:

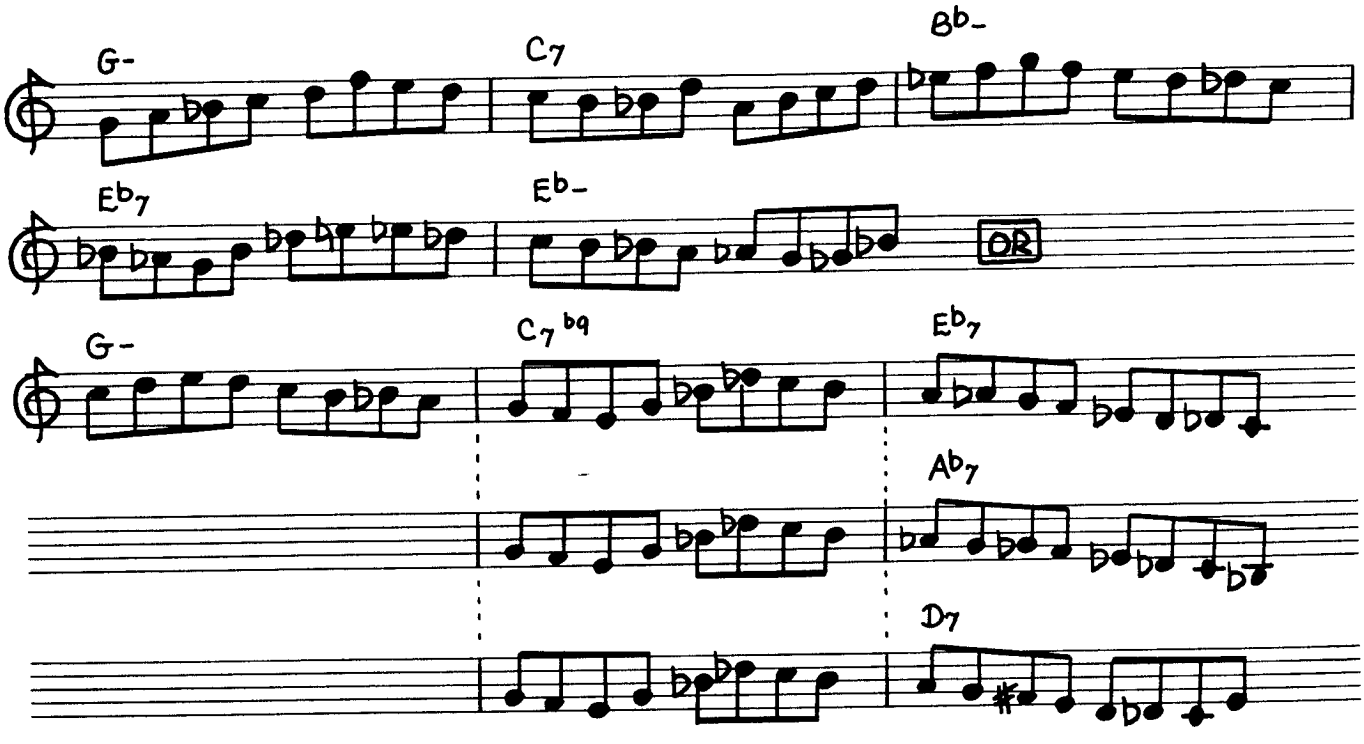
5. Bury the scale within a line, as in the following examples:



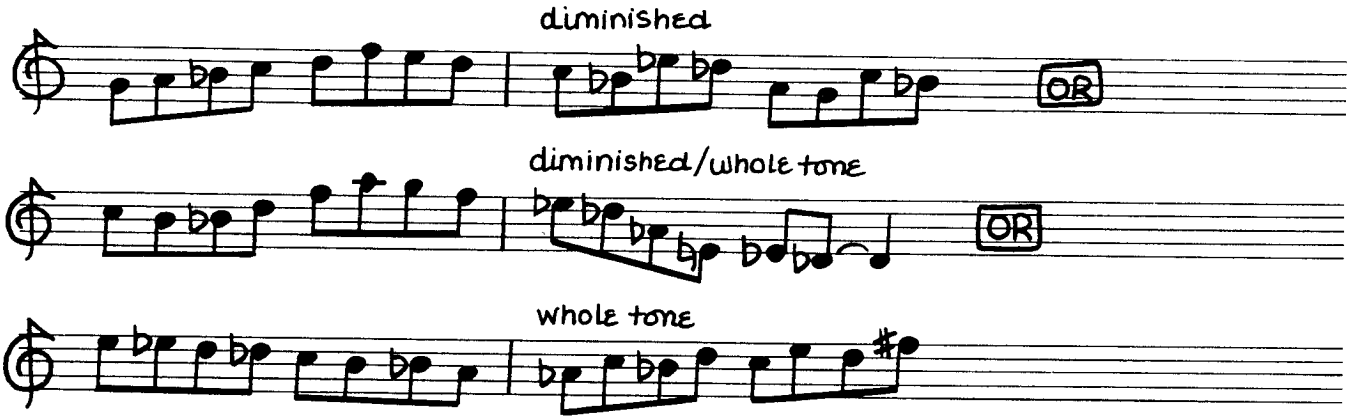
6. Turns may be used on any chord tone, as in the following examples:



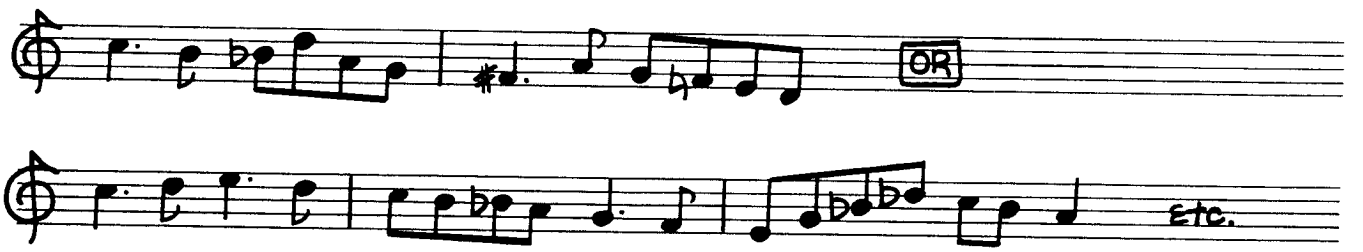
7. Join bebop scales to other bebop scales, as in the following examples:



8. Join the bebop scales to other scale types, as in the following examples:



9. Use various delays, as in the following examples:



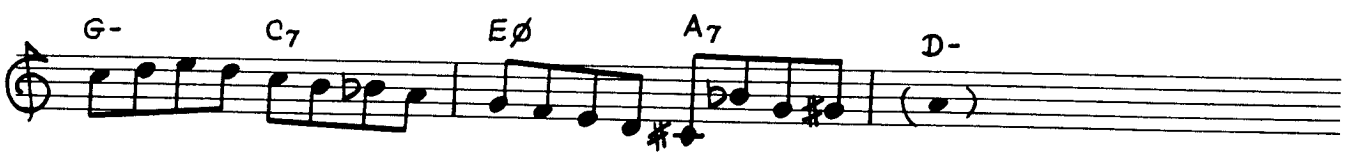
10. Use extensions.
11. Use double time.

Using the Bebop Dominant Scale Over a Half-diminished Chord

When the half-diminished chord is treated as a minor seventh (II), then all of the aforementioned rules are operative, as exemplified here:

: use rules for C_7

However, if the half-diminished chord is perceived as part of a II V_7 VII situation (i.e., G- C_7 EØ A_7 D- as in "Back Home Again in Indiana," "Whisper Not," etc.), then observe the following rule: treat the Ø (VII) as the related II V progression, as in the following example:

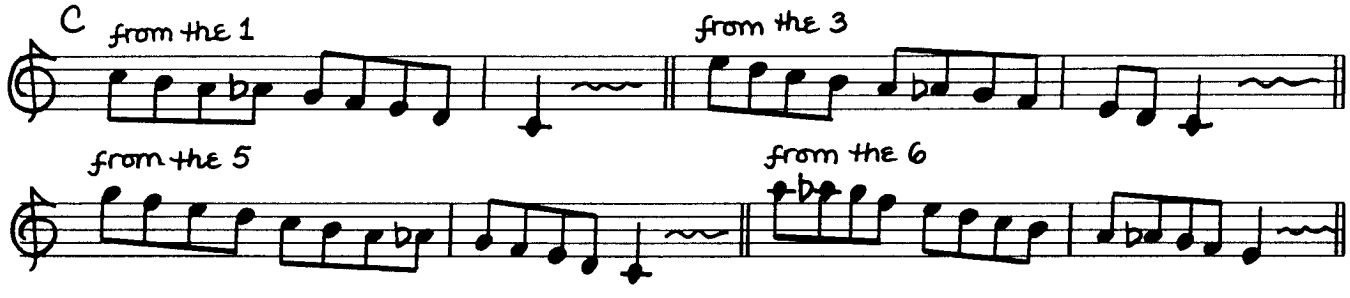


THE BEBOP MAJOR SCALE

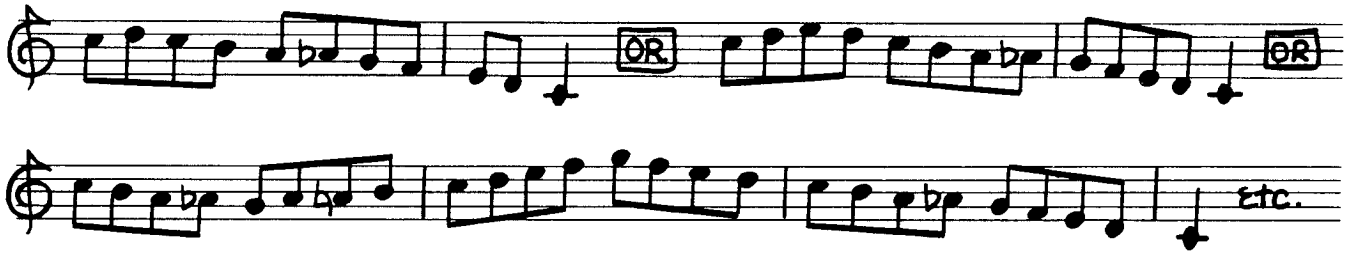
The rationale for the use of the bebop major scale is the same as that for the use of the bebop dominant scale. This scale is spelled 1-2-3-4-5-#5-6-7-8 and is used over any major type chord.

Rules

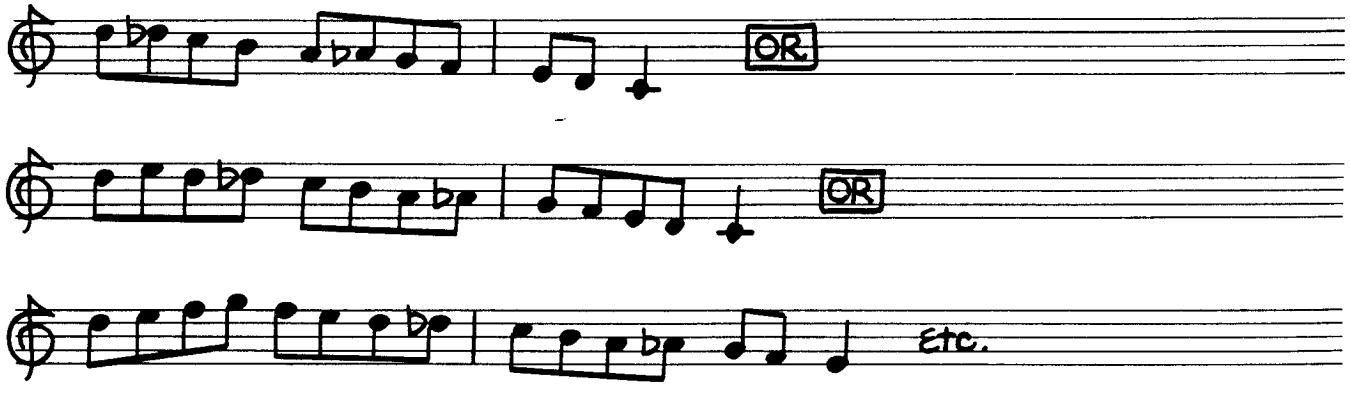
1. The scale usually moves in basic eighth note patterns and usually descends.
2. In pure form the scale invariably starts on a down beat.
3. In pure form the scale starts on a chord tone. For the purposes of the use of this scale the chord tones are 1, 3, 5, and 6 (not 7), as in the following example:



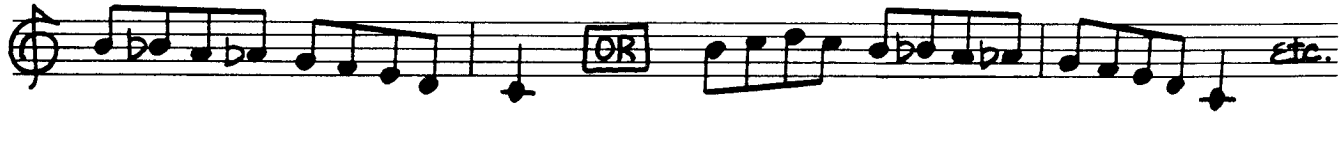
4. As long as the scale starts on a chord tone, the line may ascend and/or descend in scalar fashion, as in the following examples:



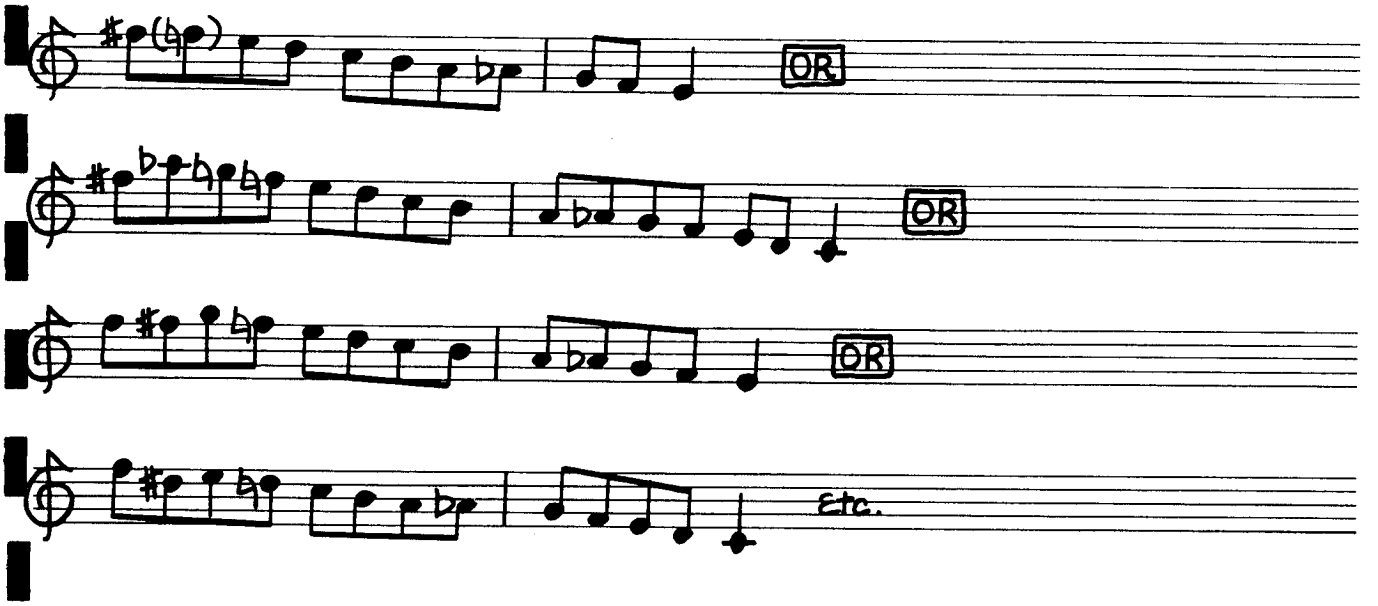
5. When the scale starts on the 9th, descend chromatically to the major 7th, then observe the basic rule, as in the following examples:



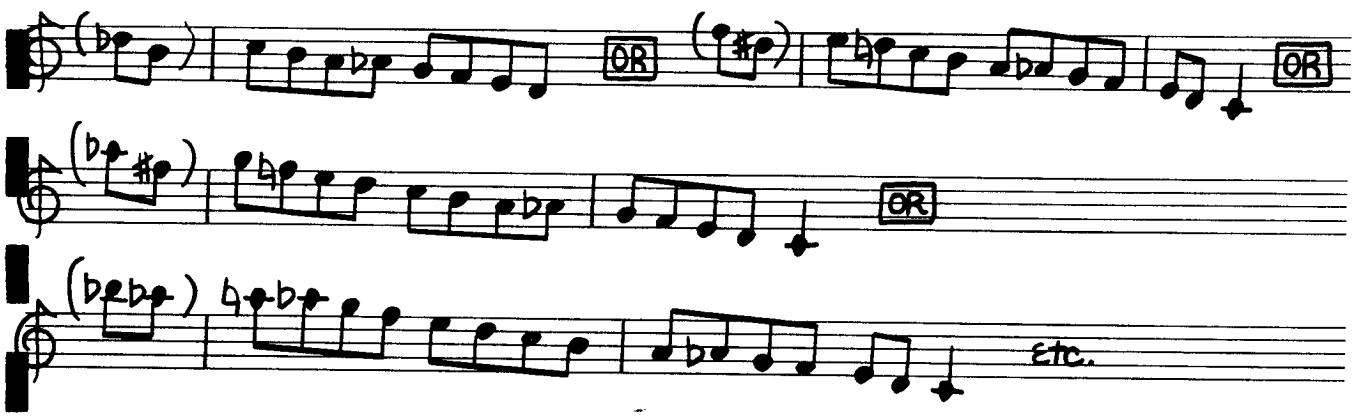
6. When the scale starts on the major 7th, descend chromatically to the 5th of the chord, as in the following examples:



7. When starting on a non-chord tone move by step, half step, or skip until a chord tone (1, 3, 5, or 6) occurs on a down beat.
8. When the solo line starts on a non-chord tone or when the line has a chord tone on an upbeat, insert a half step just before a chord tone to restore balance to the line, as in the following examples:

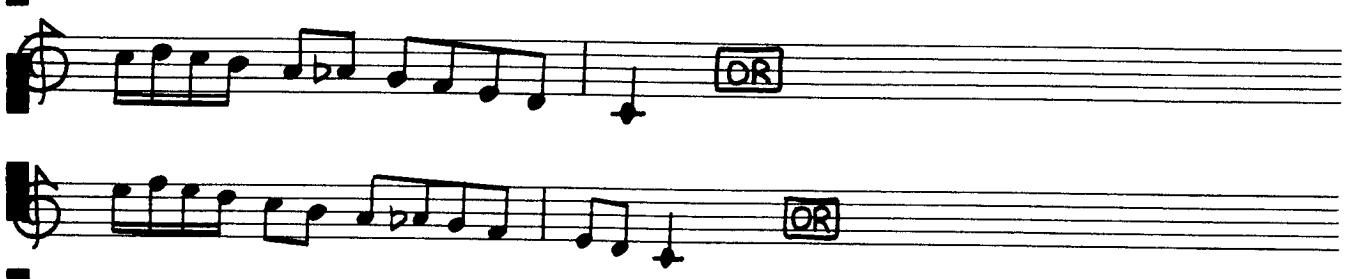


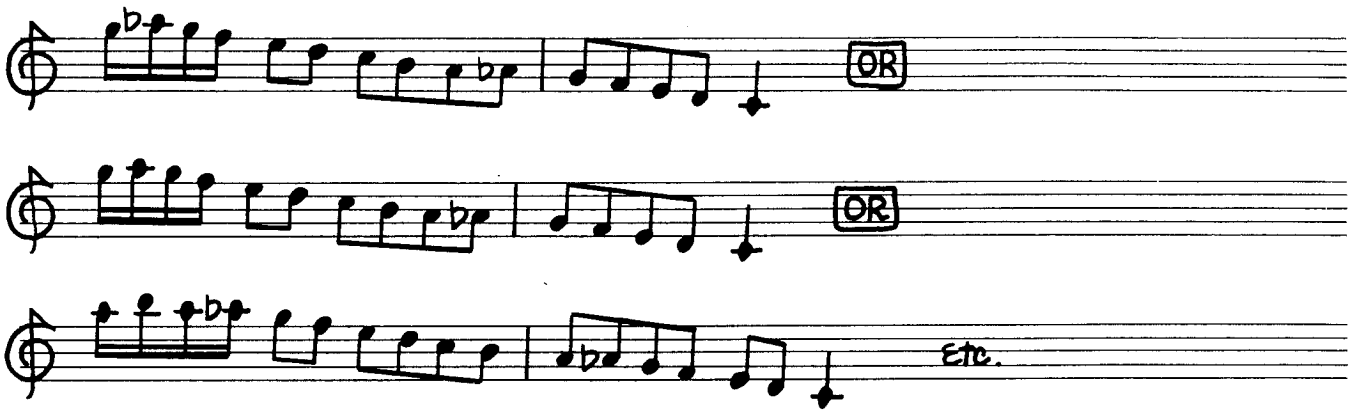
9. For variety, approach the chord tone which initiates the line by a half step above and a half step below (enclosure), as in the following examples:



Achieving Variety with the Bebop Major Scale

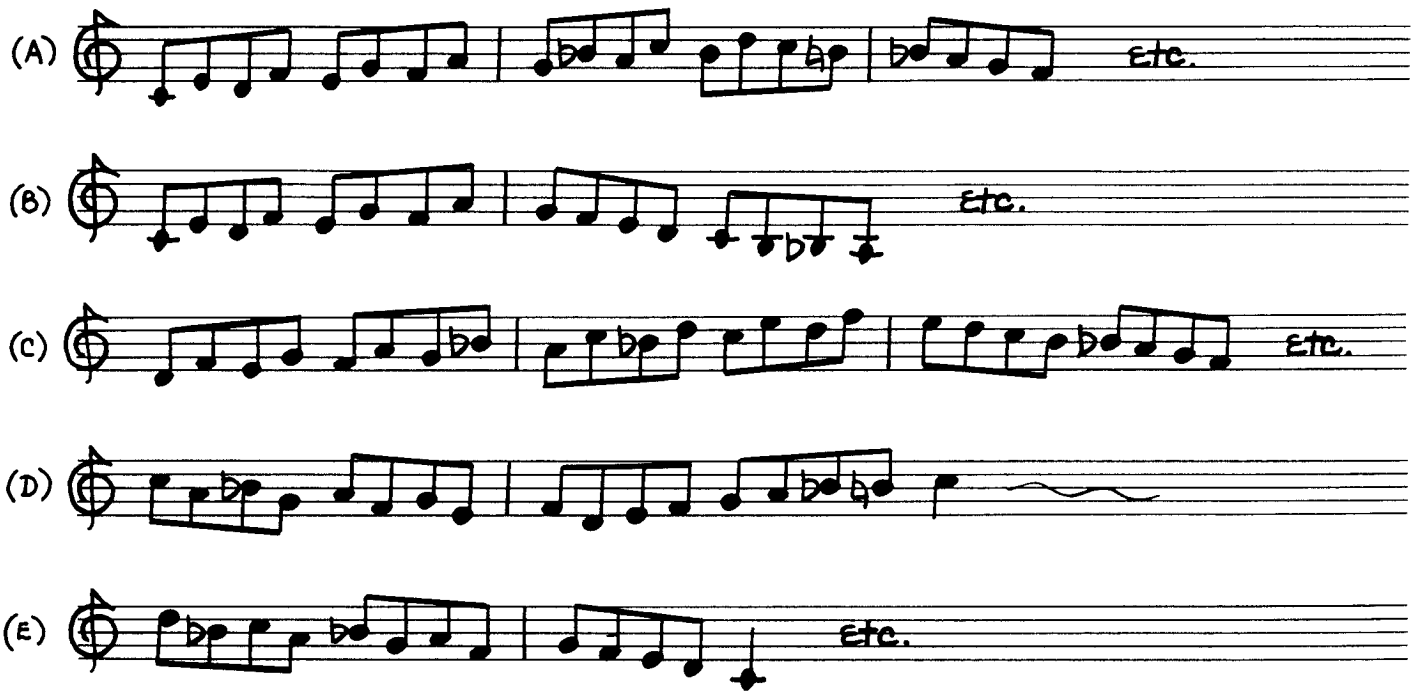
1. Start the scale on something other than the first beat of the measure.
2. Vary the starting note (not just the tonic and not just chord tones).
3. Balance ascending and descending motion.
4. Bury the scale within less obvious lines.
5. Turns may be used on any chord tone, as in the following examples:



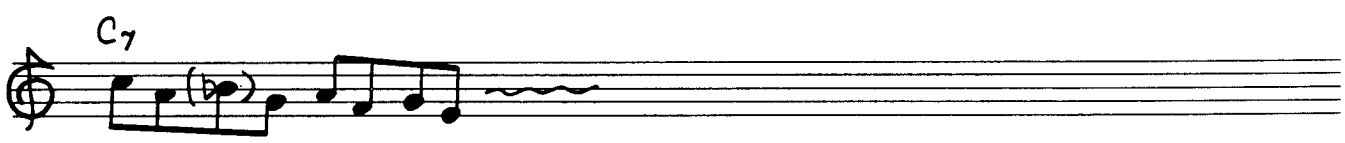


Internalizing the Bebop Scales: Some Exercises

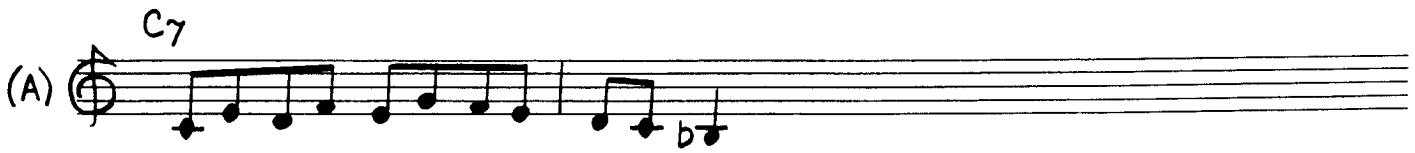
1. Broken 3rds.
   A. When ascending or descending resume the diatonic line from a chord tone on a down beat. (This rule maintains whether starting from a chord tone or a non-chord tone.)



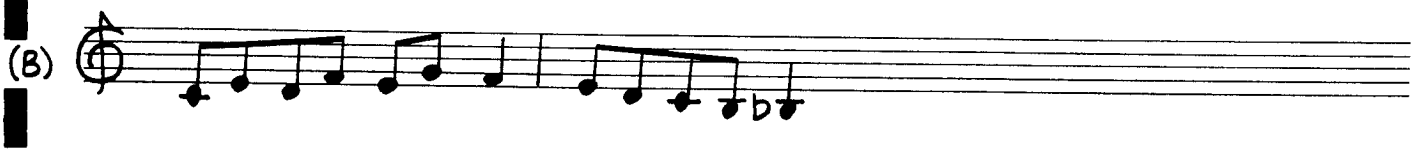
   B. In broken lines the extra half step is usually omitted, i.e. the following example:



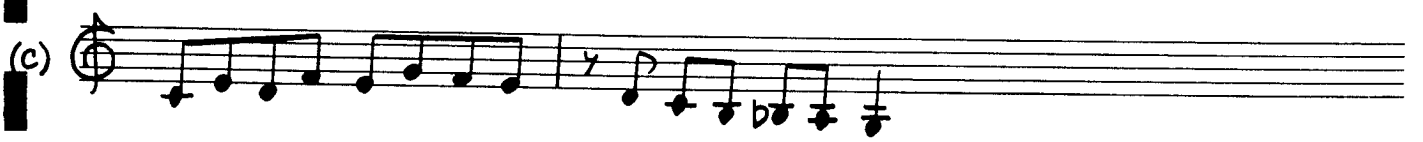
2. To resume the diatonic line from a non-chord tone, use one of the rules governing non-chord tones, i.e. the following examples:
   A. Omit the half step.



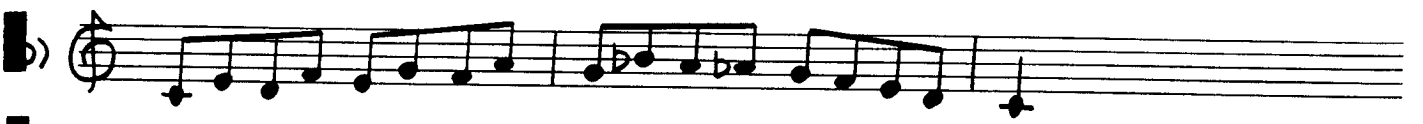
B. Use a quarter note on the non-chord tone.



C. Syncopate the next chord tone.



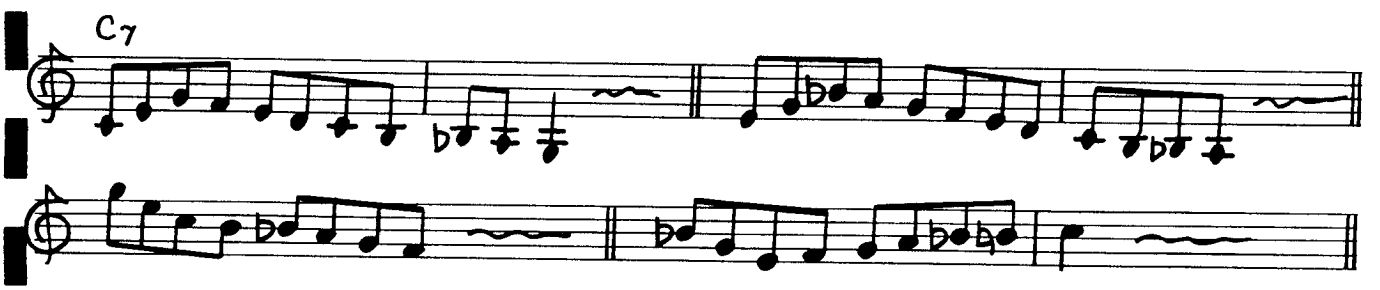
D. Add an extra half step before the next chord tone.



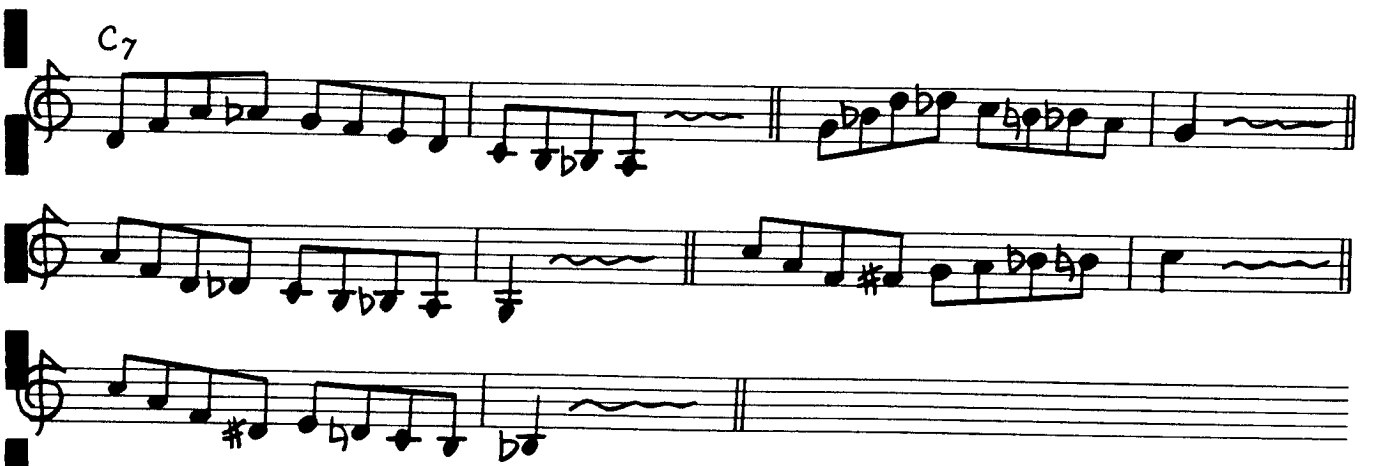
**In short, get to a chord tone on a down beat as soon as possible.

3. Broken triads.

A. Resume the diatonic line with a chord tone, as in the following examples:

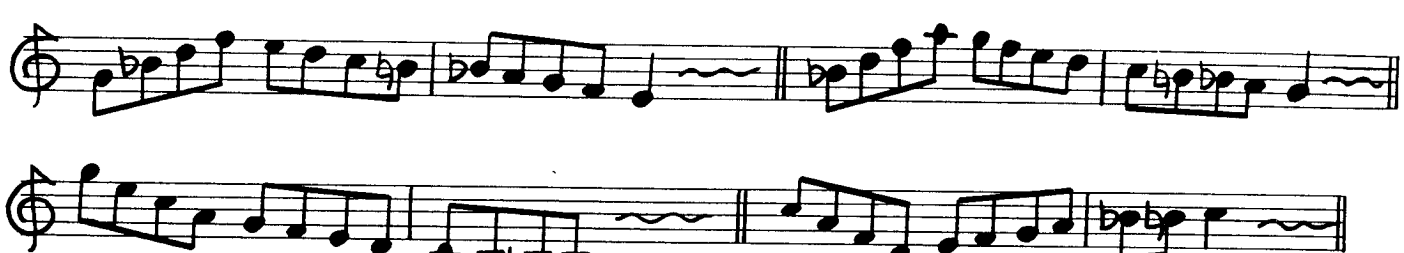


B. If the line is resumed with a non-chord tone, use one of the rules for dealing with non-chord tones, as in the following examples:

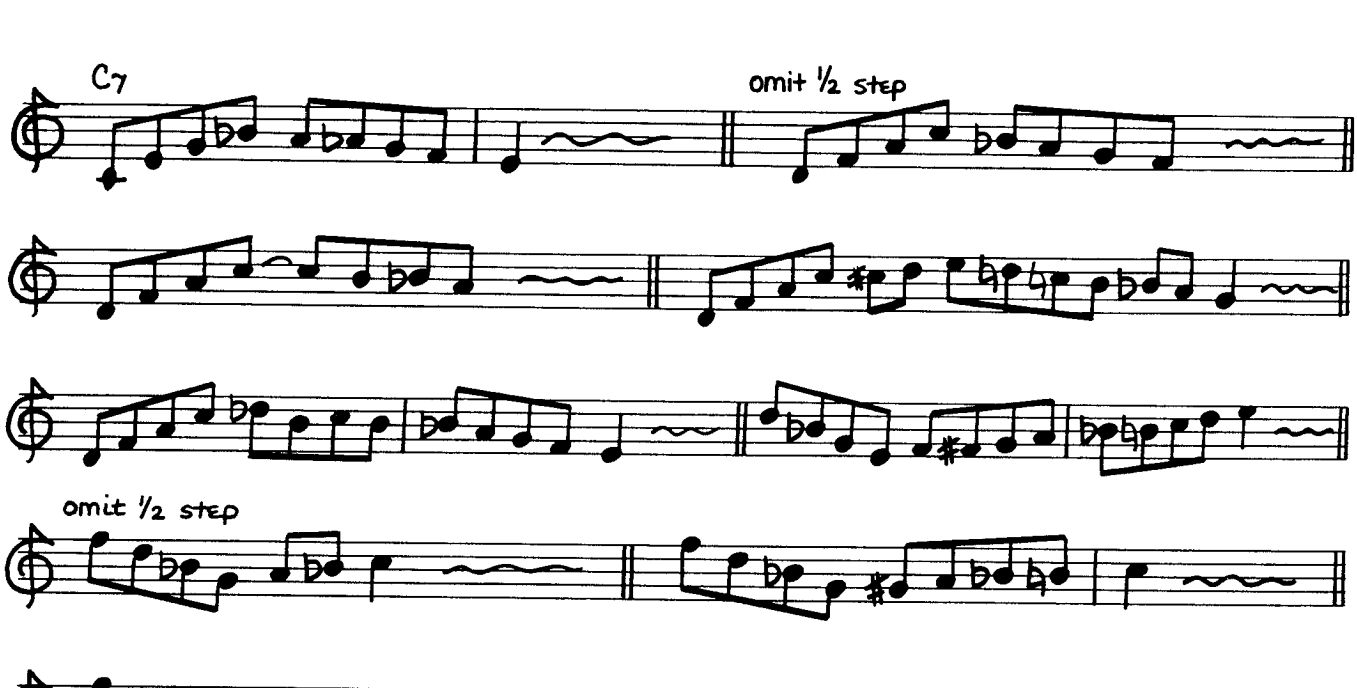


4. Broken chords.

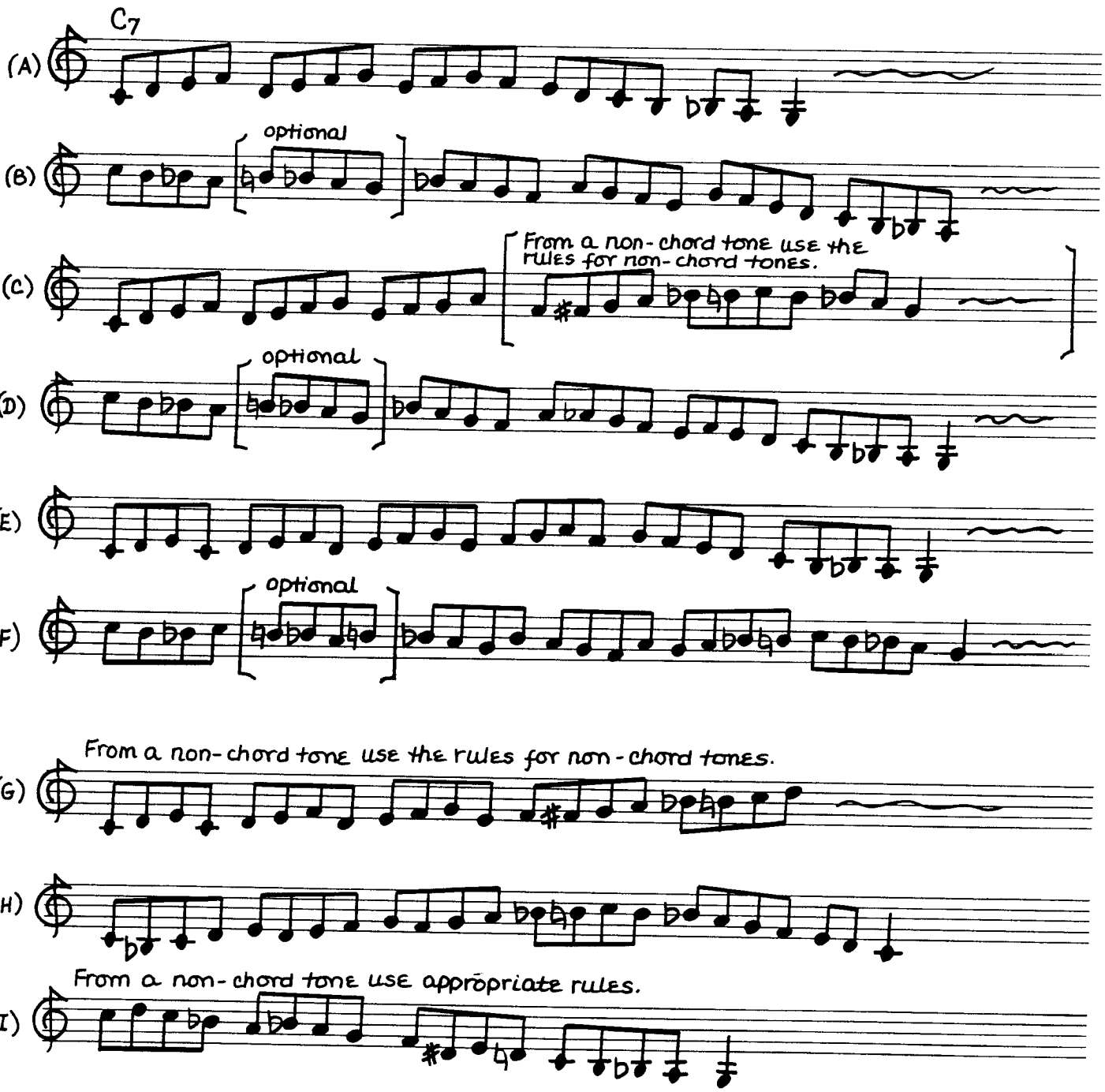
A. Resume the diatonic line with a chord tone, as in the following examples:



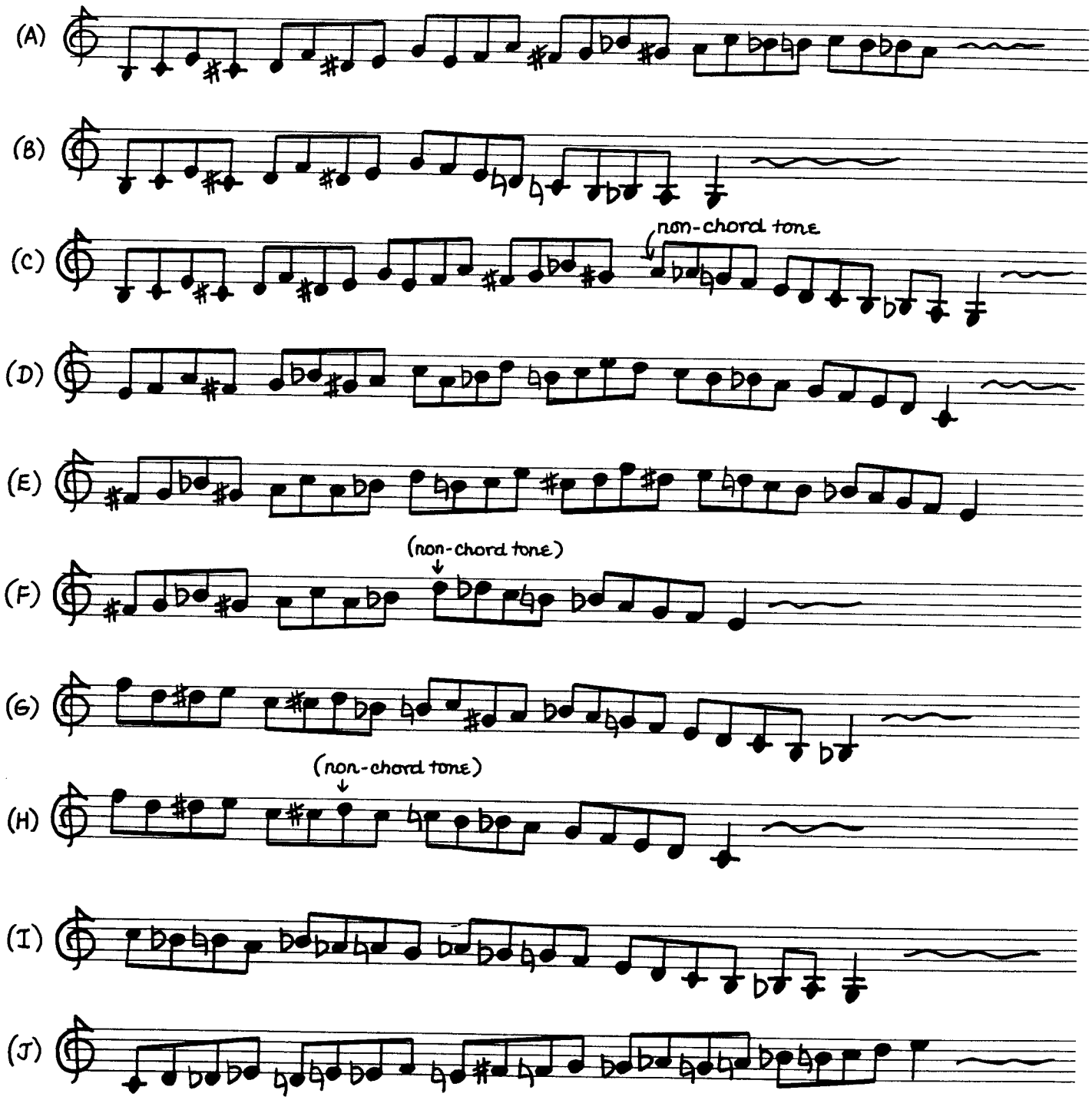
B. If the line resumes from a non-chord tone, use one of the rules governing non-chord tones, as in the following examples:



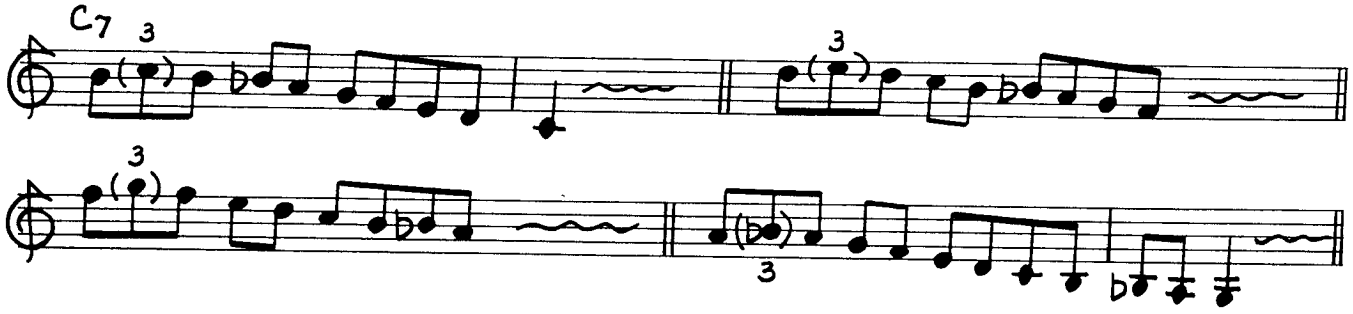
5. Some four-note groups. (Resume the complete line with a chord tone.)



6. In the following examples resume the line from a chord tone or use the appropriate rules for non-chord tones.



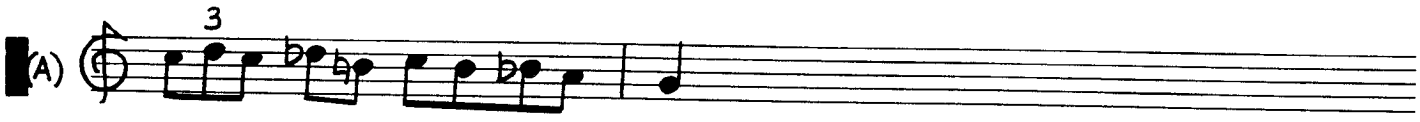
7. Triplets. If the scale is to function normally, make the middle note of the triplet the chord tone (and when going to the tonic, start on the major 7th), as in the following examples:



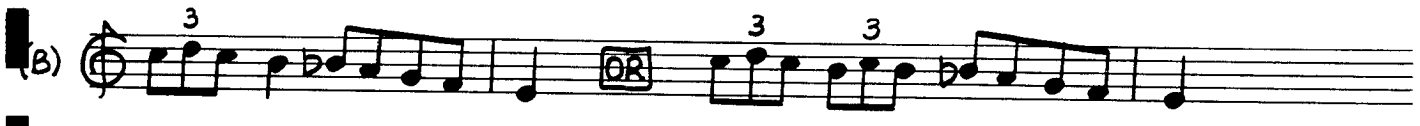
8. Triplets. When starting the triplet on a chord tone, use one of the rules for non-chord tones, as in the following examples:

Tonic

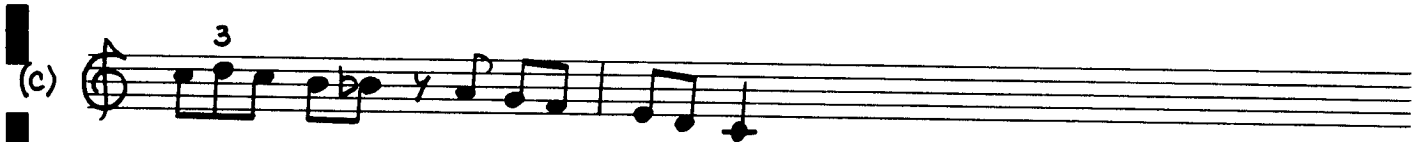
A. Enclosure (extra half step)



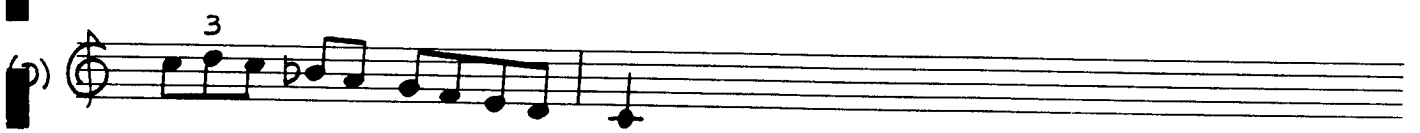
B. Non-chord tone as a quarter note



C. Chord tone syncopated



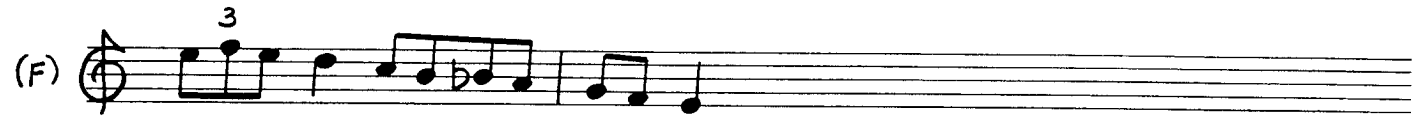
D. Extra half step omitted



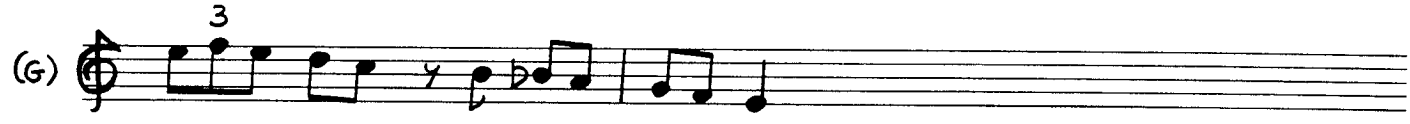
3rd

E. Extra half step

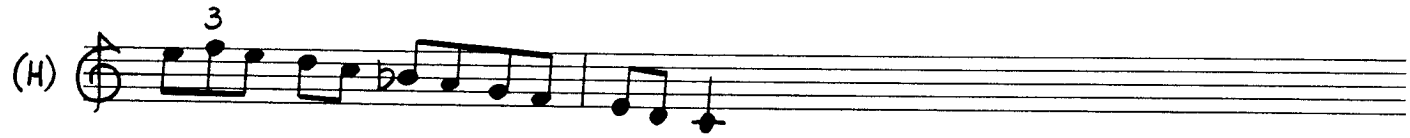
F. Non-chord tone as a quarter note



G. Chord tone syncopated

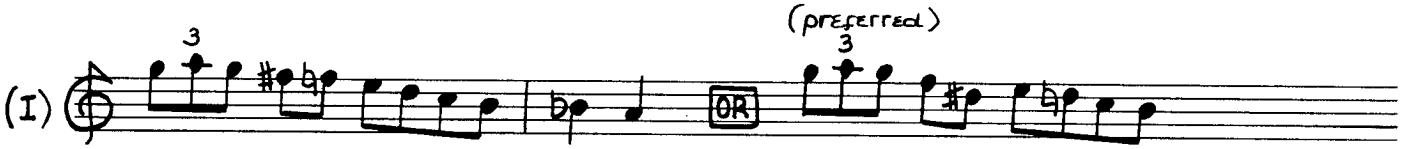


H. Extra half step omitted

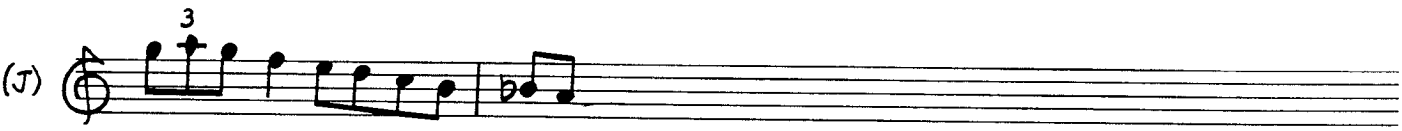


5th

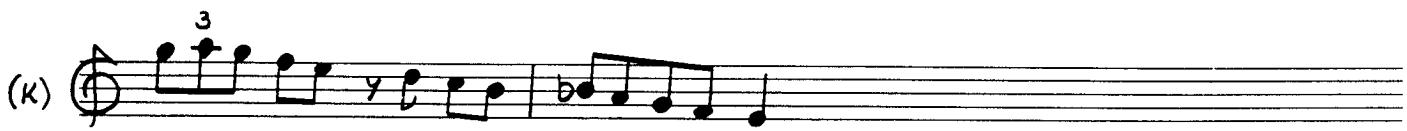
I. Extra half step



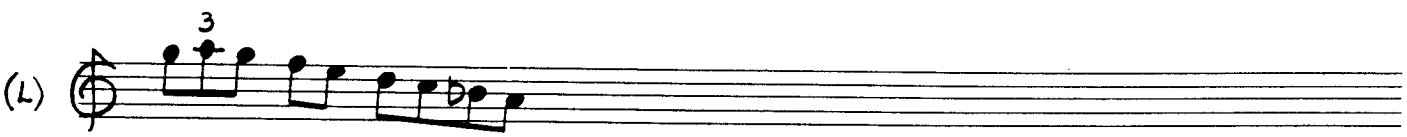
J. Non-chord tone as a quarter note



K. Chord tone syncopated

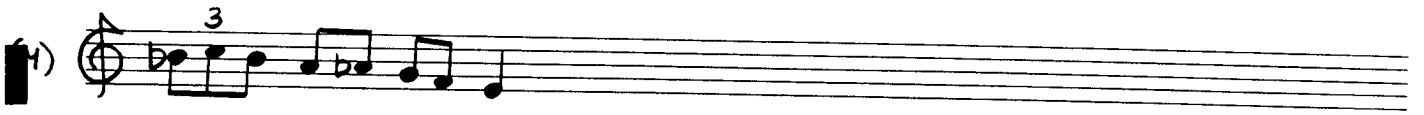


L. Extra half step omitted



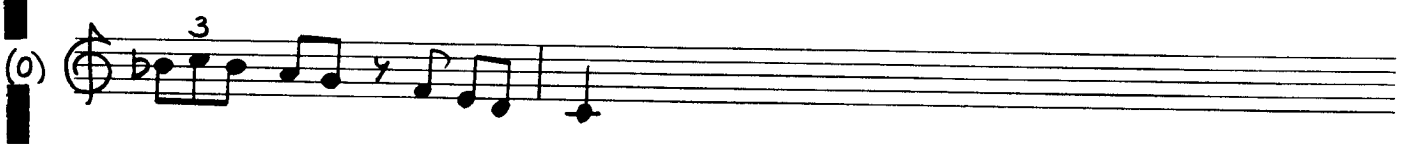
7th (This is the only exception of the chord tone in the middle.)

M. Extra half step

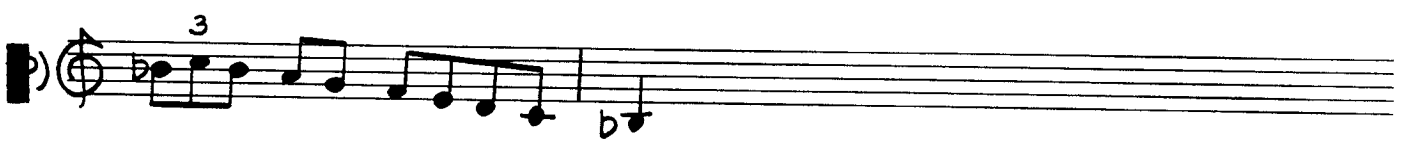


N. Non-chord tone as a quarter note

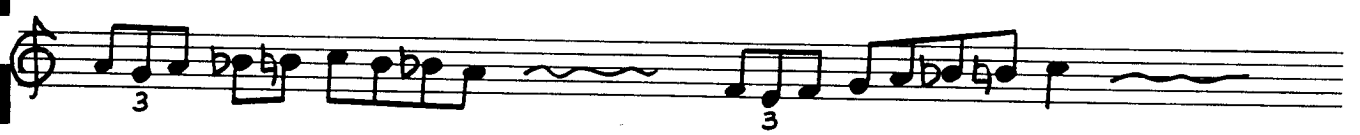
O. Chord tone syncopated



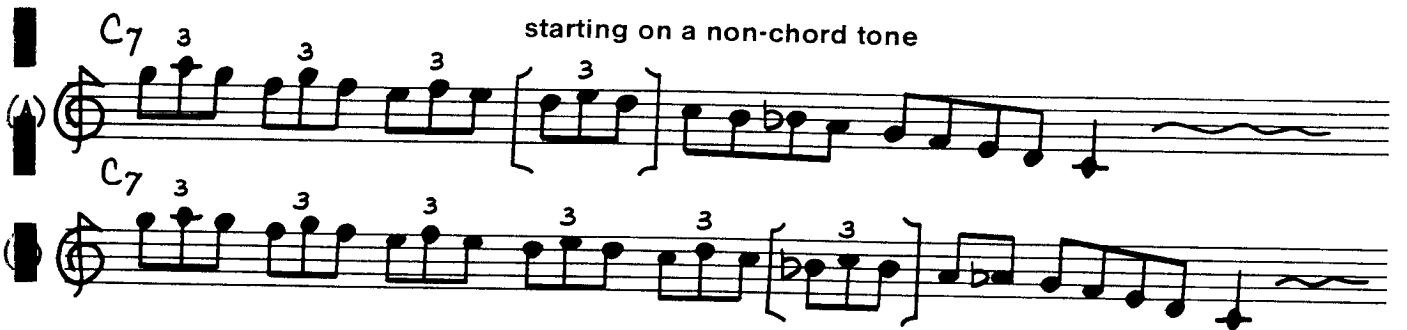
P. Extra half step omitted



Although less frequently used, the above rules maintain for ascending triplet figures, as in the following examples (starting on a non-chord tone):

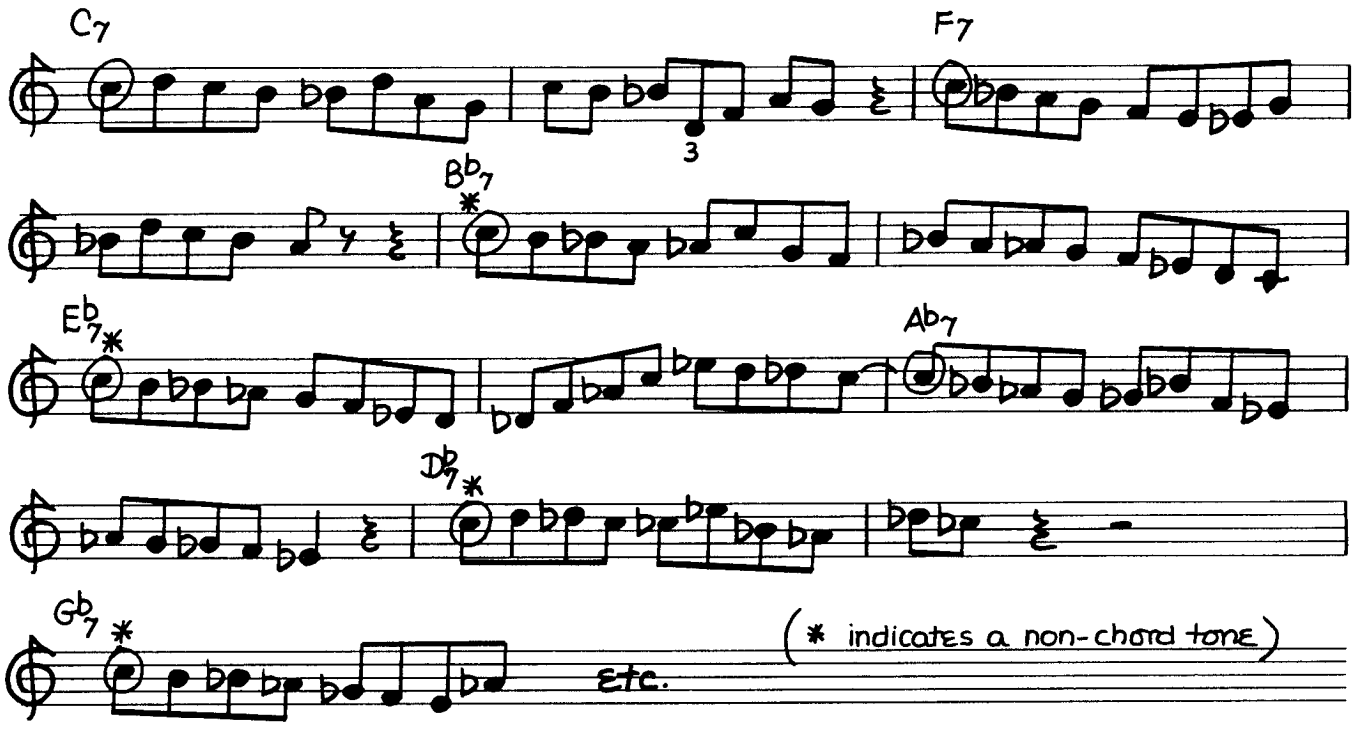


9. In a string of triplets the last triplet determines the rule, as in the following examples:

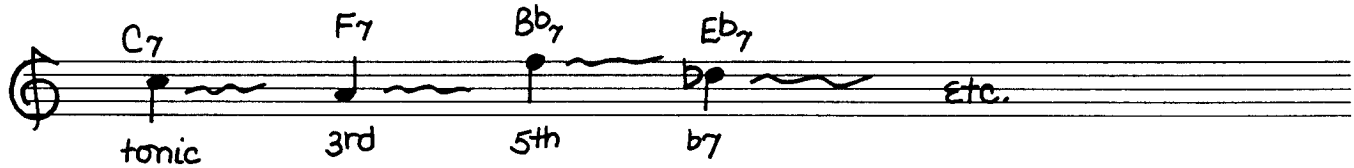


More Exercises for Internalizing the Bebop Scales

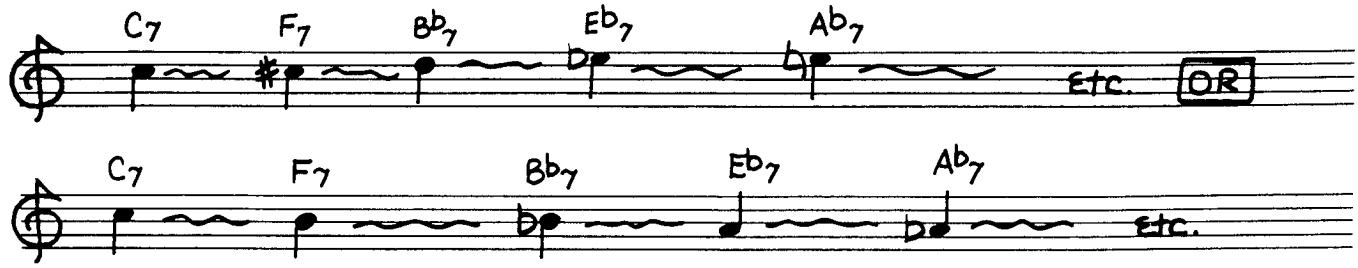
1. Bebop scales (dominant). Play into the sound of the chord as quickly as possible. Use the cycle, with each chord lasting two measures.
   A. From the tonic of the chord
   B. From other predetermined chord tones (3, 5, b7)
   C. From predetermined non-chord tones
   D. All scales from a single predetermined starting tone, as in the following example using C:



   E. Start each successive scale from the next highest chord tone in rotation, as in the following example:

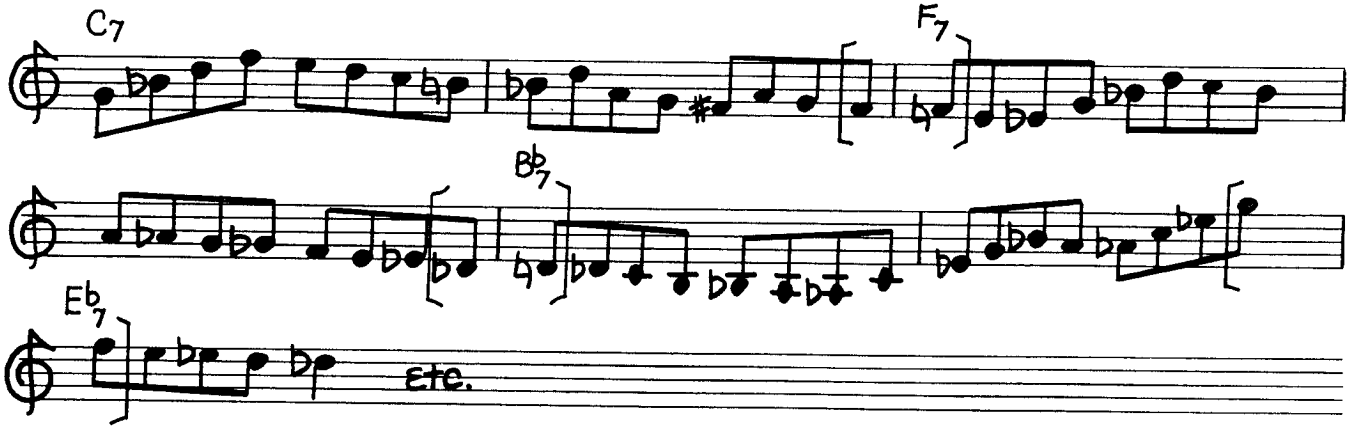


   F. Start each successive scale from the next highest or lowest chromatic tone, as in the following examples:

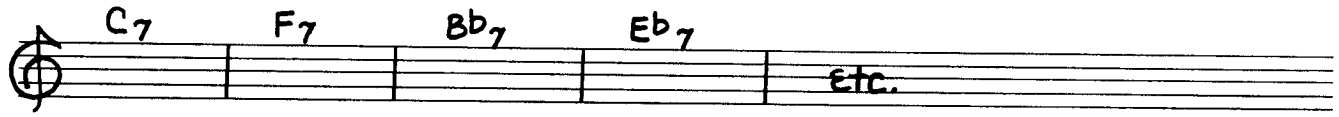


G. Choose starting tones randomly.

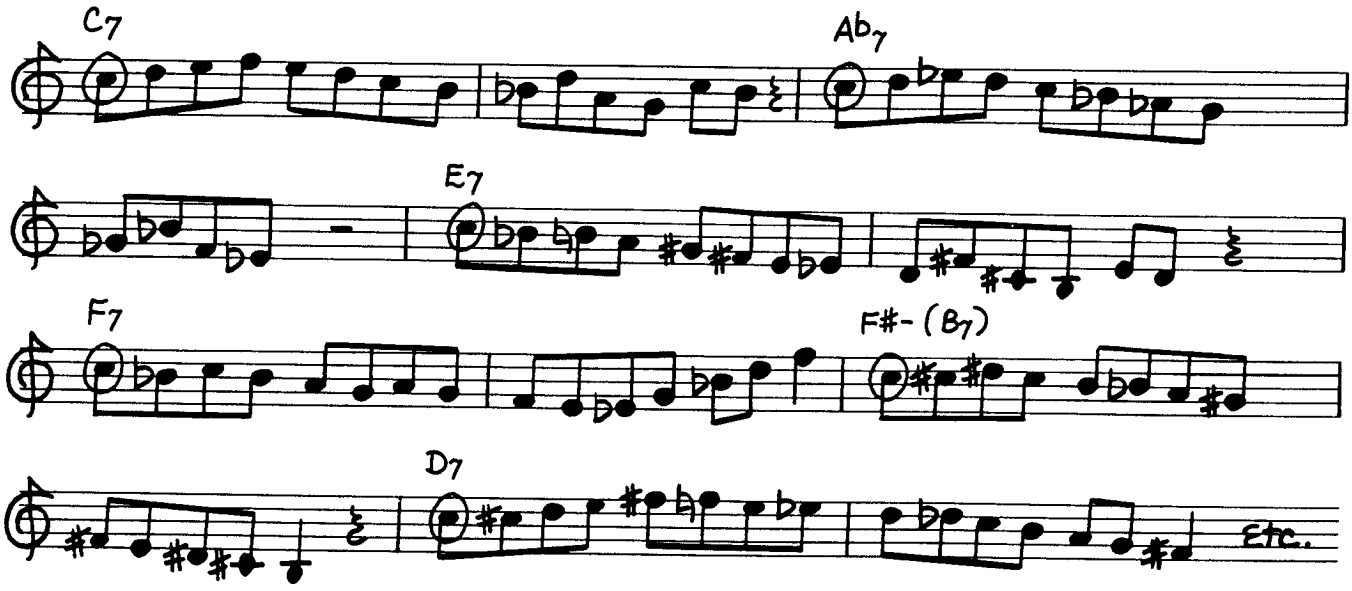
H. Playing a continuous line, move into each new chord by conjunct motion (by half step or whole step), as in the following example:



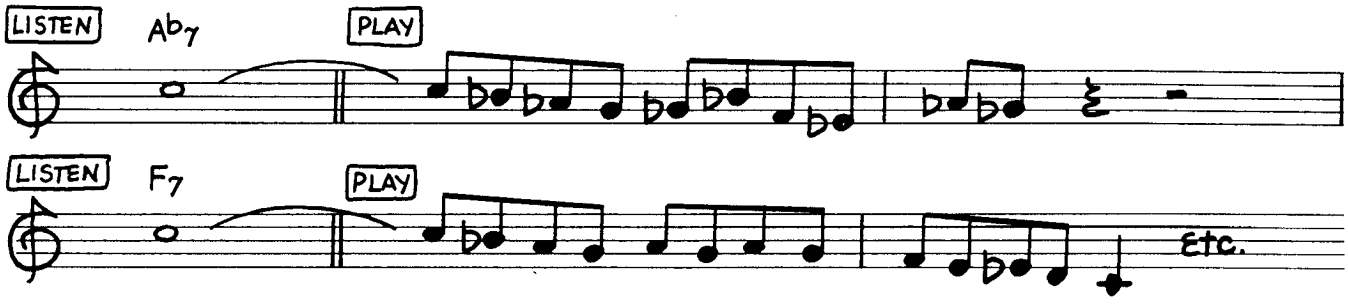
2. Bebop scales (dominant). Repeat all exercises from #1 (A–H). Use changes that move at the rate of one per measure, as in the following:



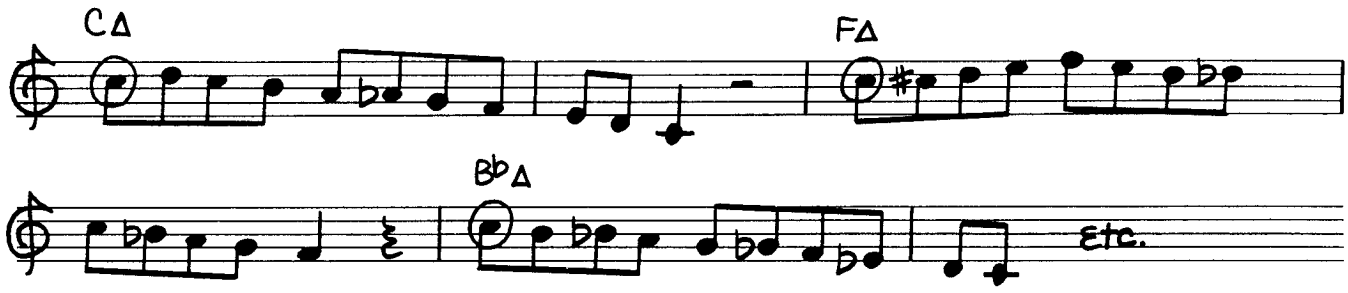
3. Playing by EAR realize random 7th and minor 7th chords using the bebop scales from a single starting tone, as in the following example using C:



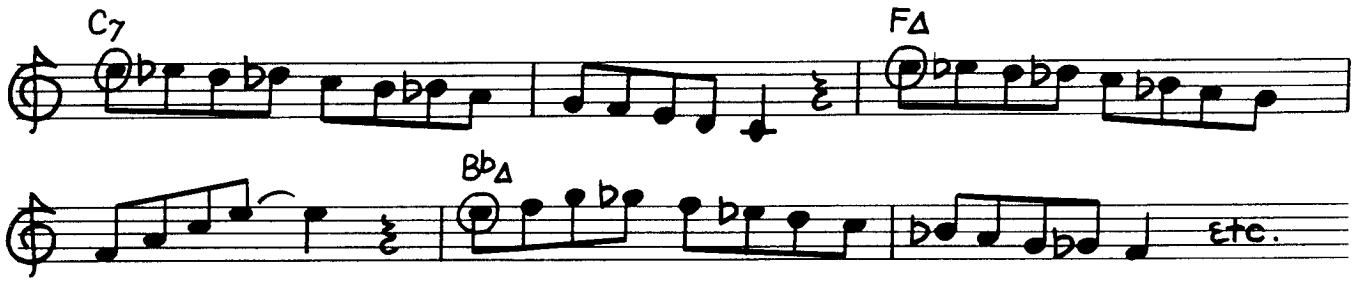
Using starting notes chosen randomly, play the preceding exercise. As preparation, practice the following exercise, leaving a measure to listen to each new chord before playing.



4. Using the instructions for #1, 2, and 3, play exercises using the bebop major scale, as in the following example using C as the starting tone:

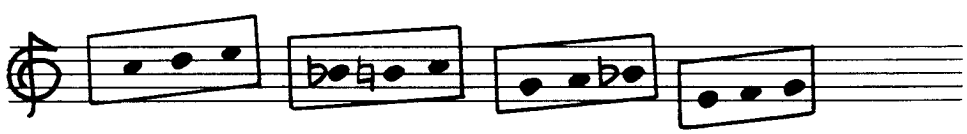


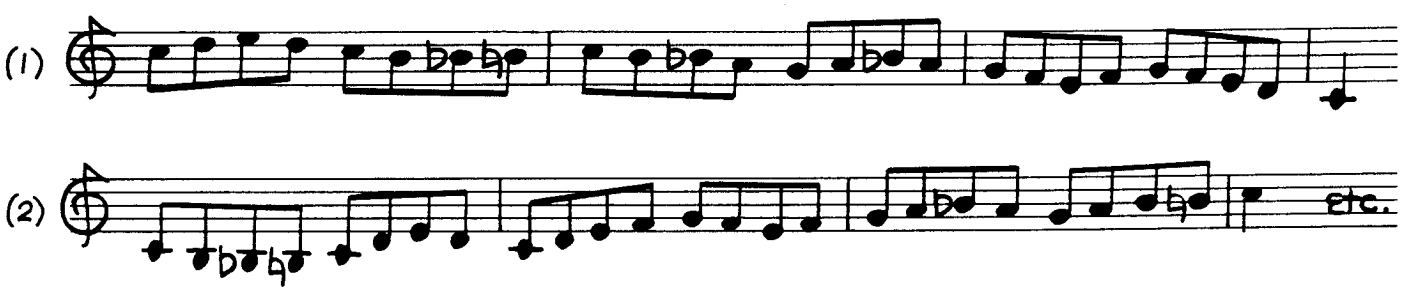
5. Using the instructions for #1, 2, and 3, play exercises mixing major and dominant bebop scales, as in the following example using E as the starting tone:



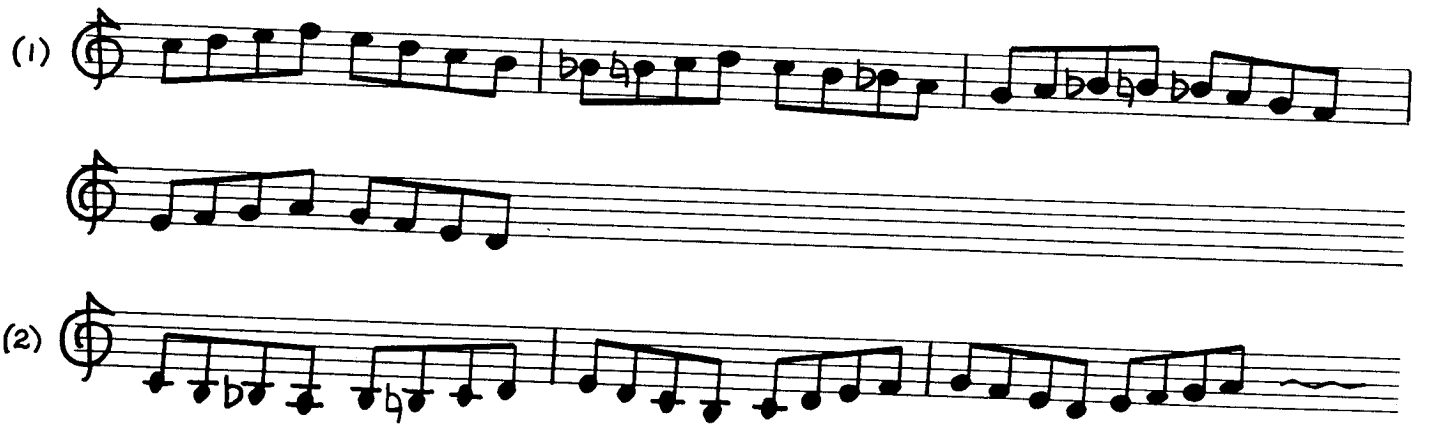
6. Spins from a chord tone. (Spins are scalar ascending figures.)

3 note spins:



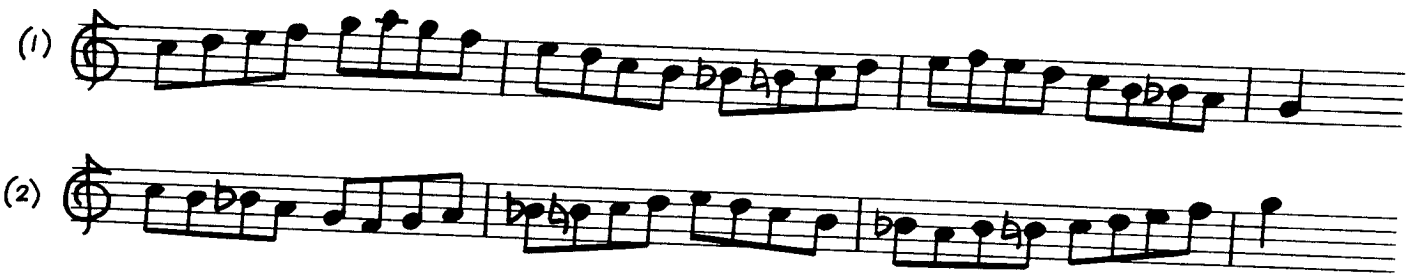


4 note spins:

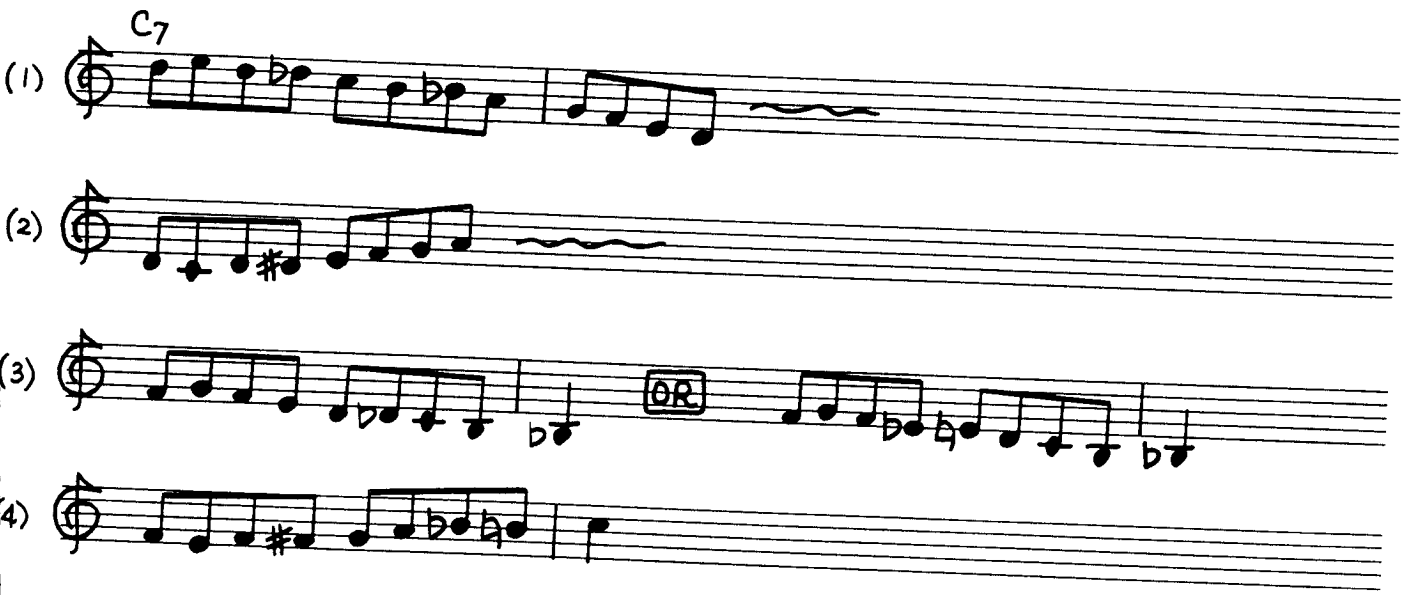


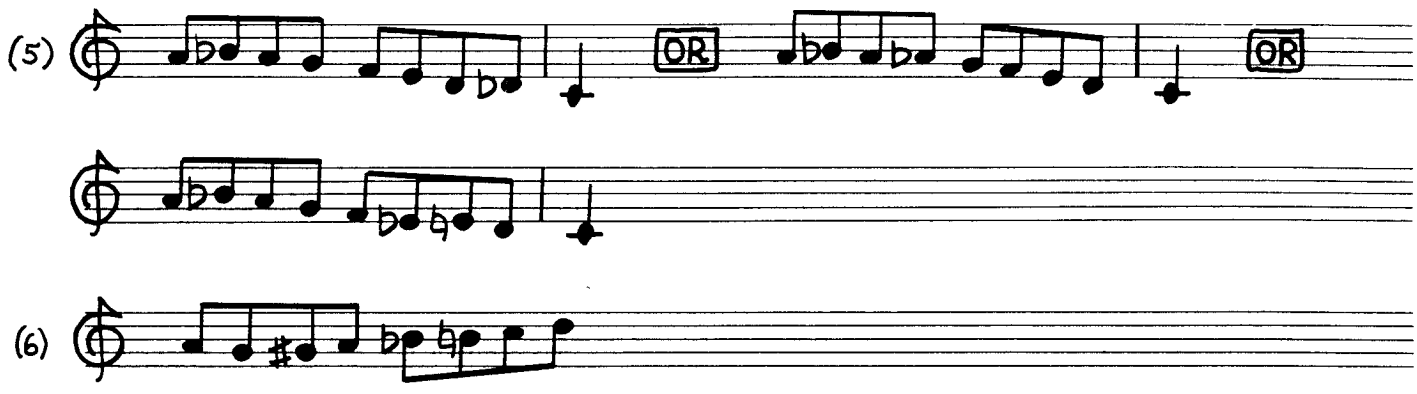
5 note spins:

6 note spins:

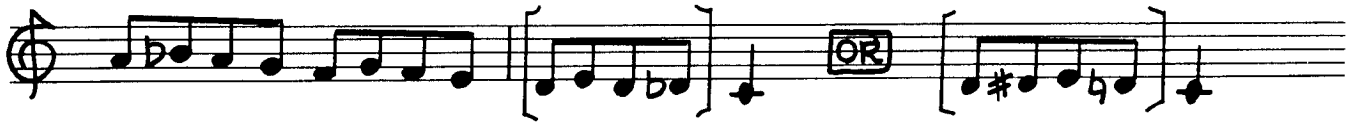


7. Spins from non-chord tones.

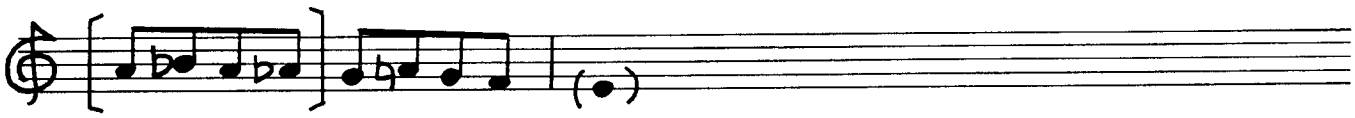




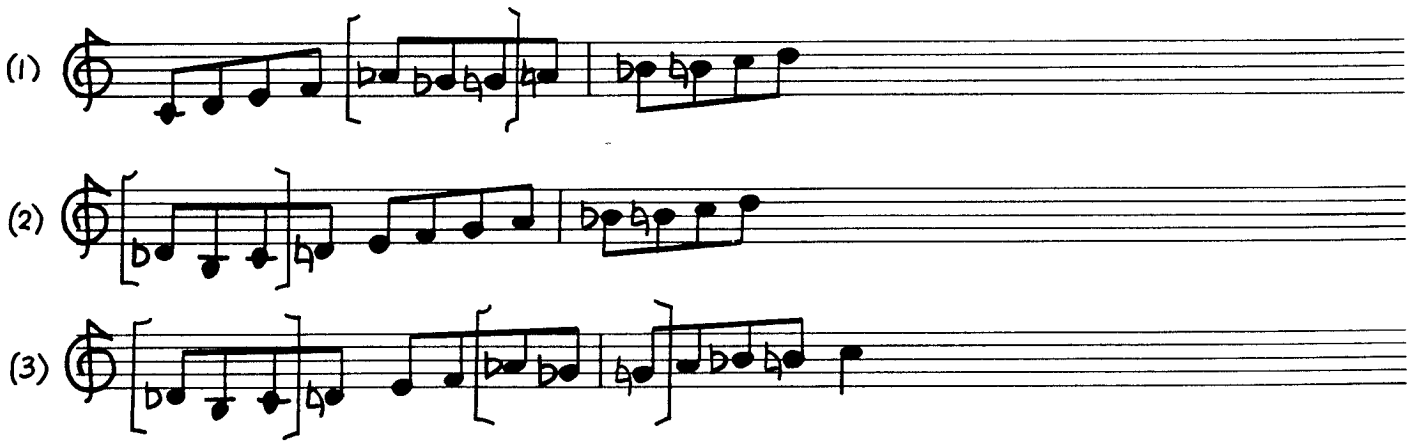
To restore the balance in a string of spins, you may alter the last pattern, as in the following example:



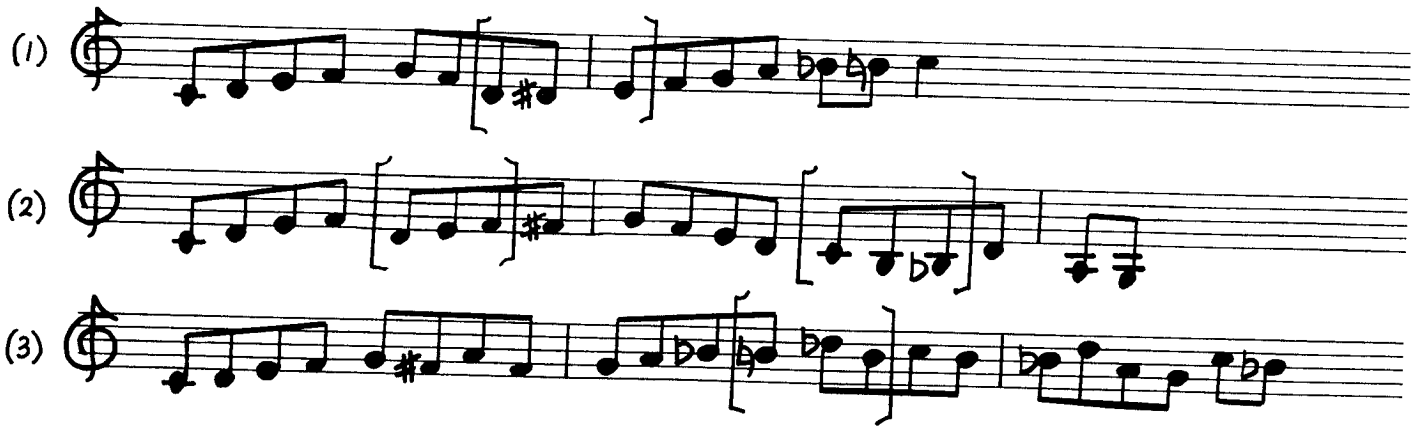
Or, in a string of spins, add the half step at any point to restore the balance, as in the following example:



Some Examples of Enclosure with Ascending Scales



Some Examples of Embellishment with Ascending Scales



An Example of a Bebop Solo Using Bebop Scales, Enclosure, Embellishment, Etc.

Because of copyright restrictions it is not possible to print Clifford Brown's solo on "Confirmation," but by numbering the four choruses of the solo (A), (B), (C), and (D), examples of these devices will be indicated. This solo can be found on the album *A Night At Birdland:* Blue Note 1522; published transcriptions can be found in *28 Modern Jazz Trumpet Solos* by Ken Slone and *The Jazz Style of Clifford Brown* by David Baker.

Bebop Scales

(A) measures 8, 11-12, 12-13, 17-18, 26, 29-30, and 30-31
(B) measures 4-5, 6, 7, 11-13, 15, 17, 22, and 27
(C) measures 3, 6, and 18-19
(D) measures 3, 6-7, and 11-12

Enclosures

(A) measures 2, 3-4, 22, 29, and 31
(B) measures 7, 9-10, and 25-26
(C) measures 16-17, 28, and 30
(D) measures 8-9, 9-10, 16, and 18-19

Other Embellishments

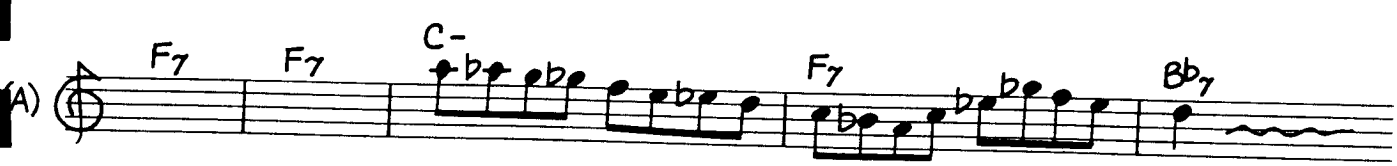
(A) measures 6, 15, and 27-28

A Perpetual Motion Exercise

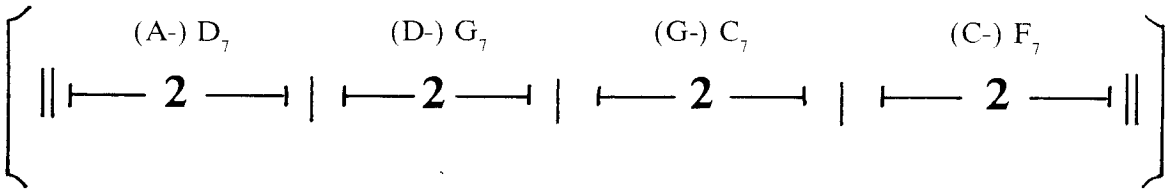
This exercise is designed to help a player develop a sense of line. The pattern may be used whenever a set of changes (II V_7 or V_7) move around the key circle at the rate of two measures apiece, as in the following examples:

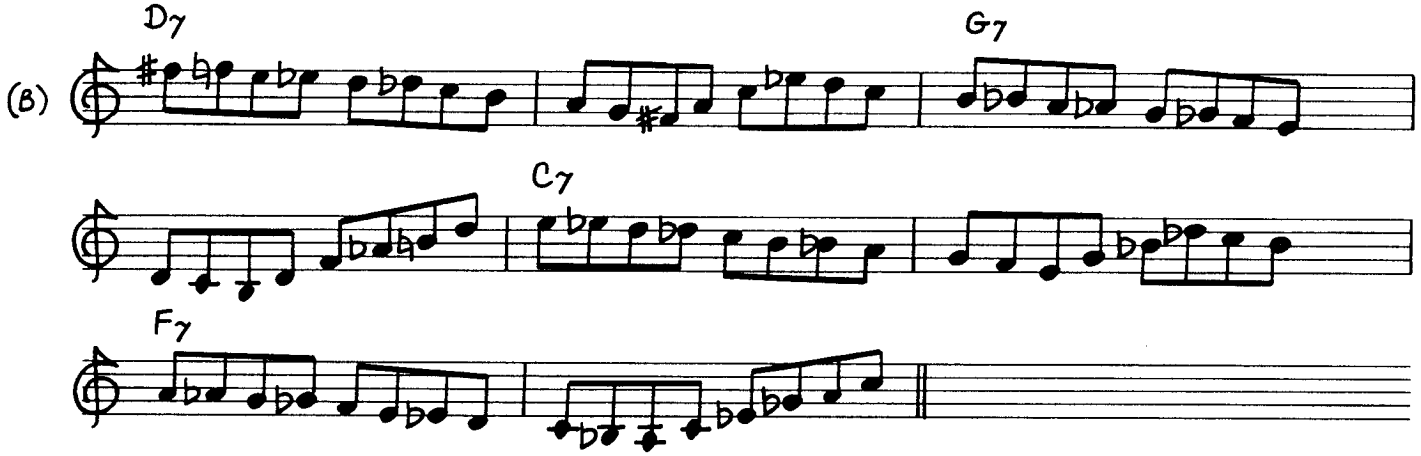
1. Blues

| F_7 | F_7 [| C- | F_7 | Bb]

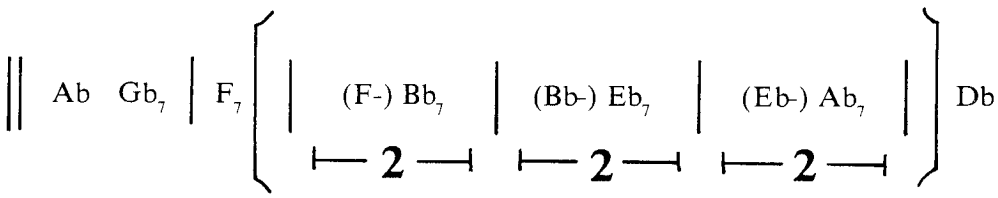


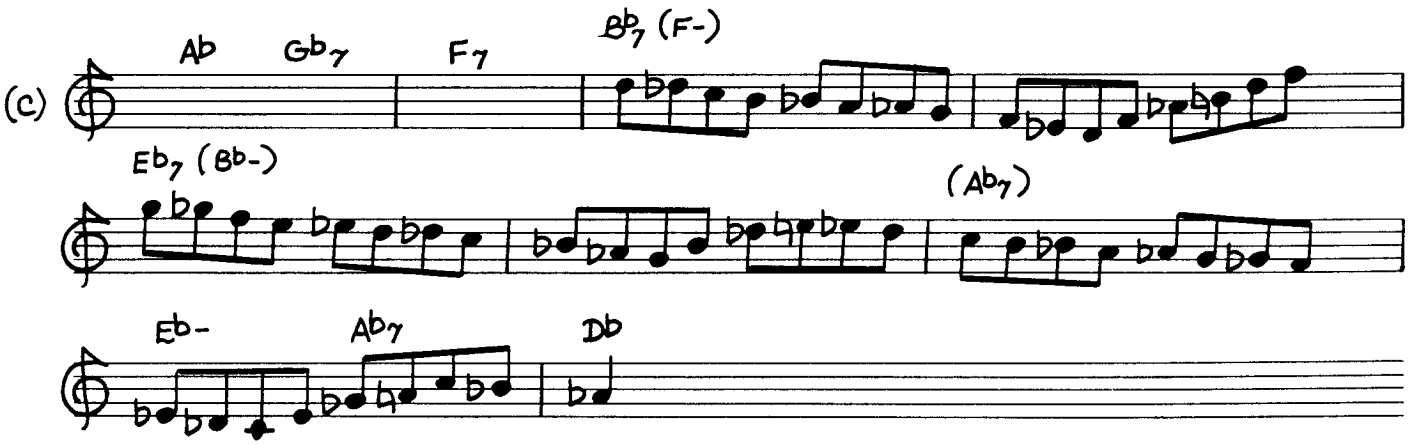
2. Bridge of "I Got Rhythm"





3. "Donna Lee"

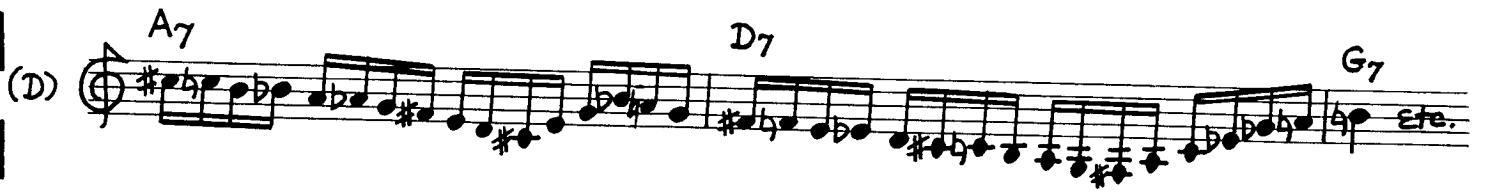




4. "Yesterdays"

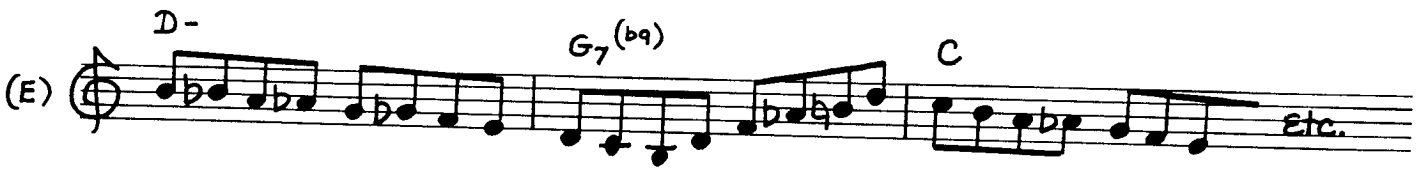
measure number → [9 (E-) A_7 | 10 (A-) D_7 | 11 (D-) G_7 | 12 (G-) C_7 | 13 (C-) F_7]

Double-time the line.

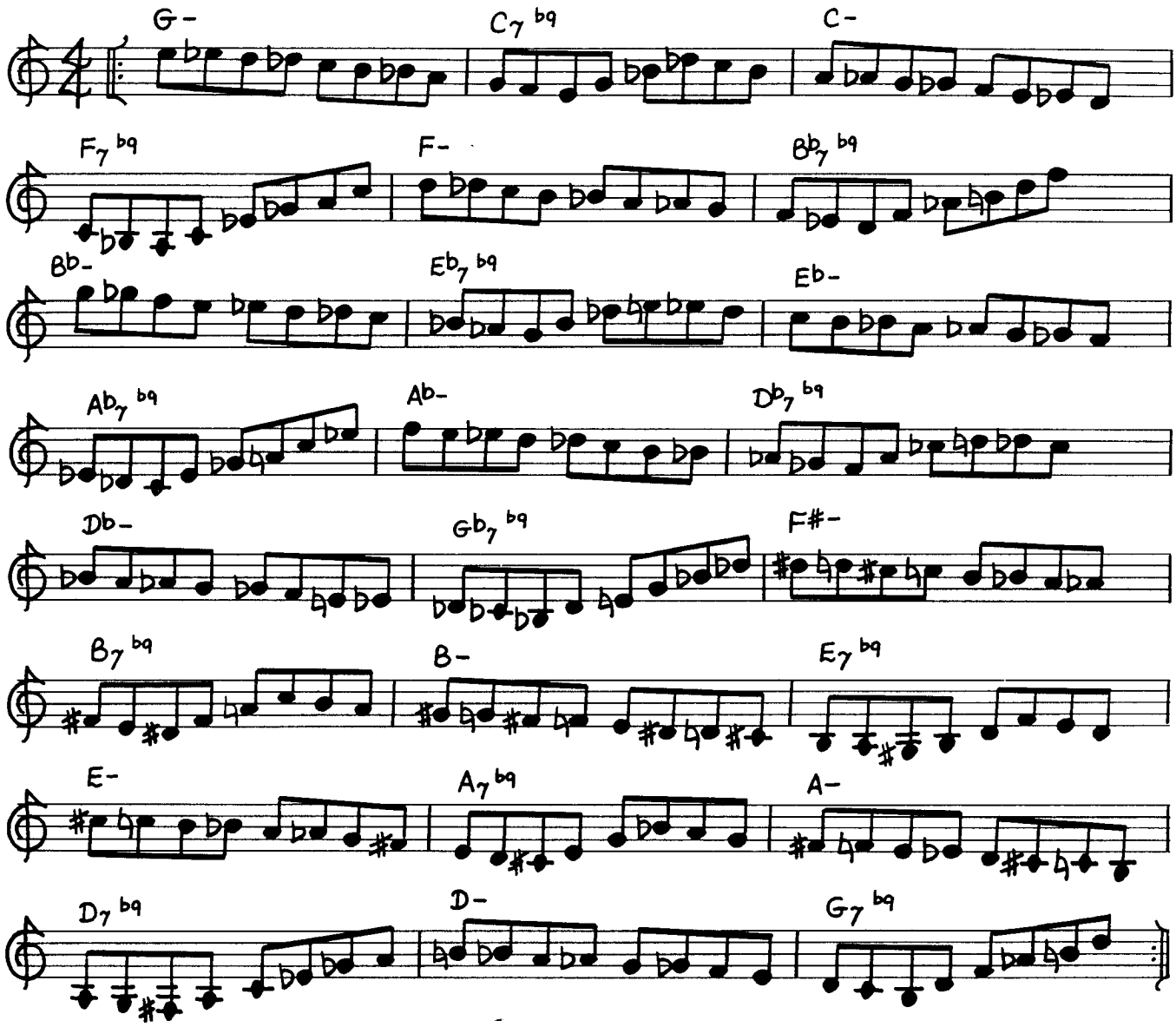


5. The pattern may be treated as a II V_7 I pattern (incomplete).

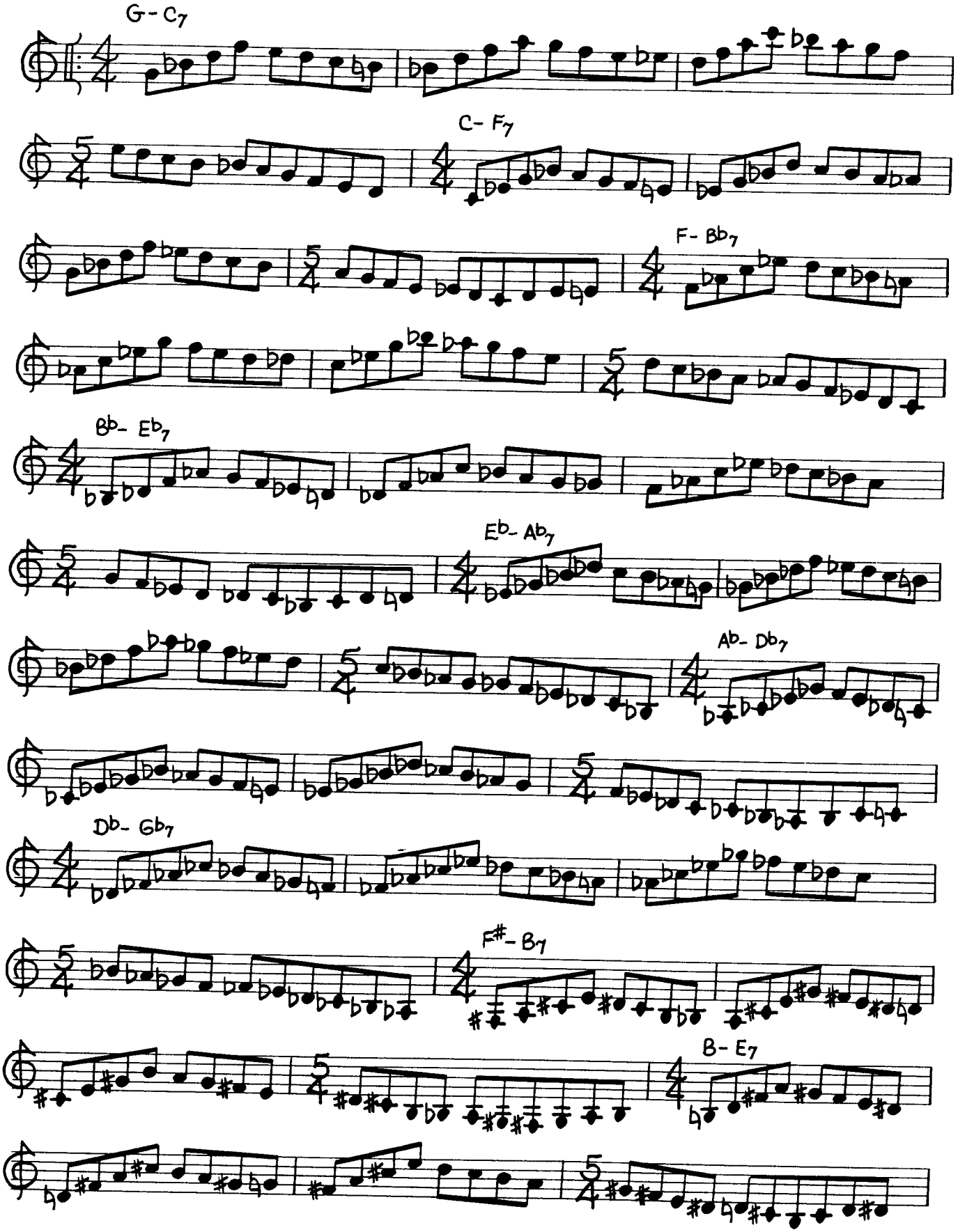
D- | G_7 | C | C ||

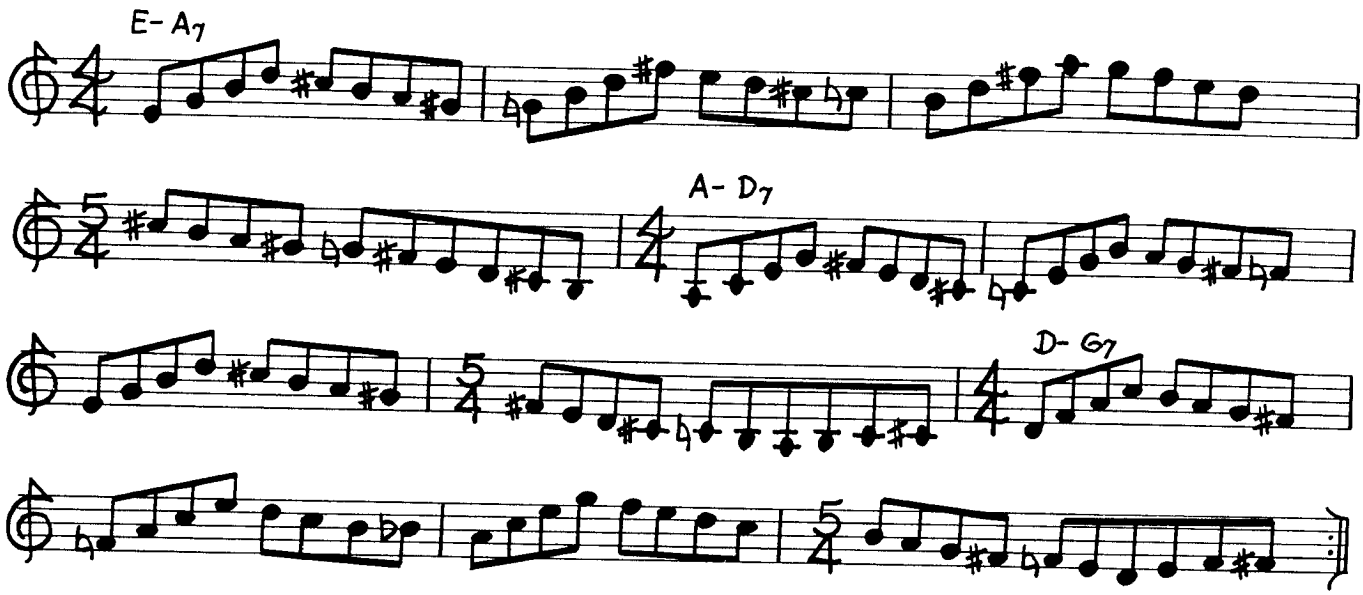


The perpetual motion exercise. Start on any II chord and play back to the point of origination.



Perpetual motion exercise #2.

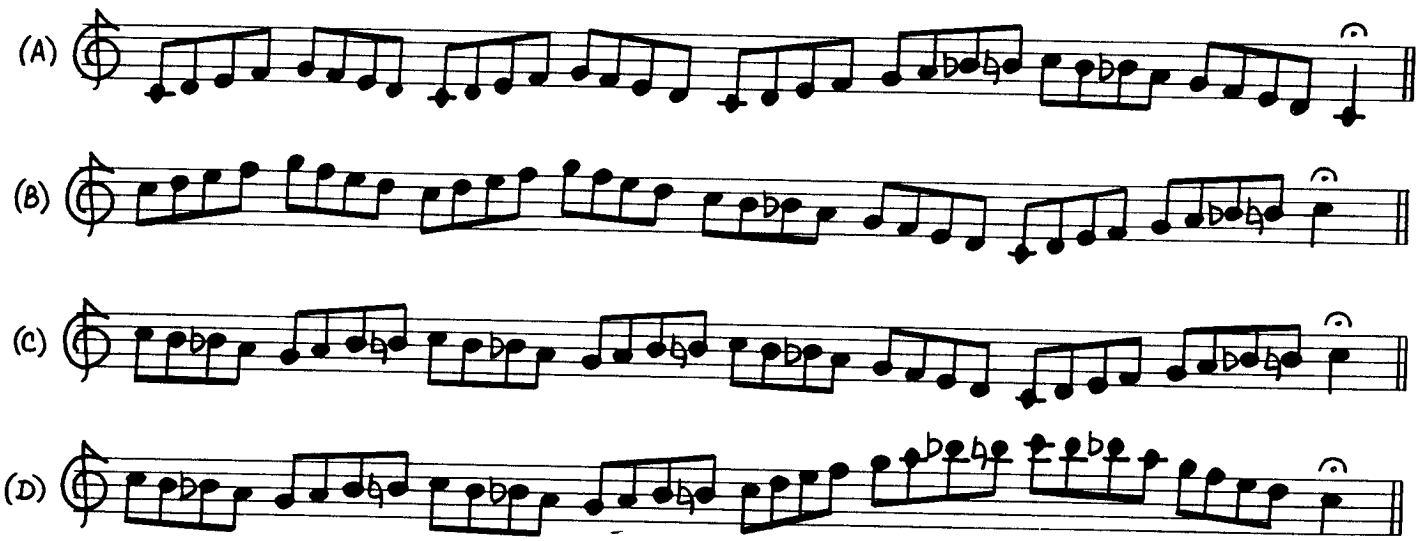




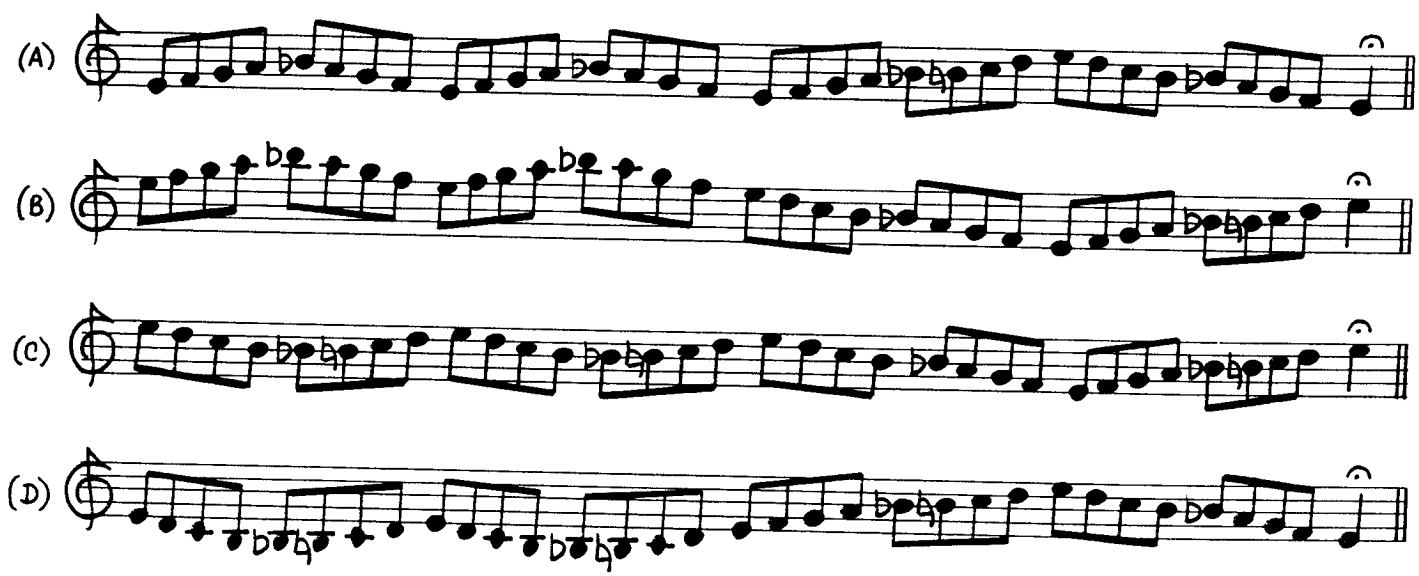
Jazz Calisthenics

All of these exercises fit over these chords: G-, C_7, E$\emptyset$

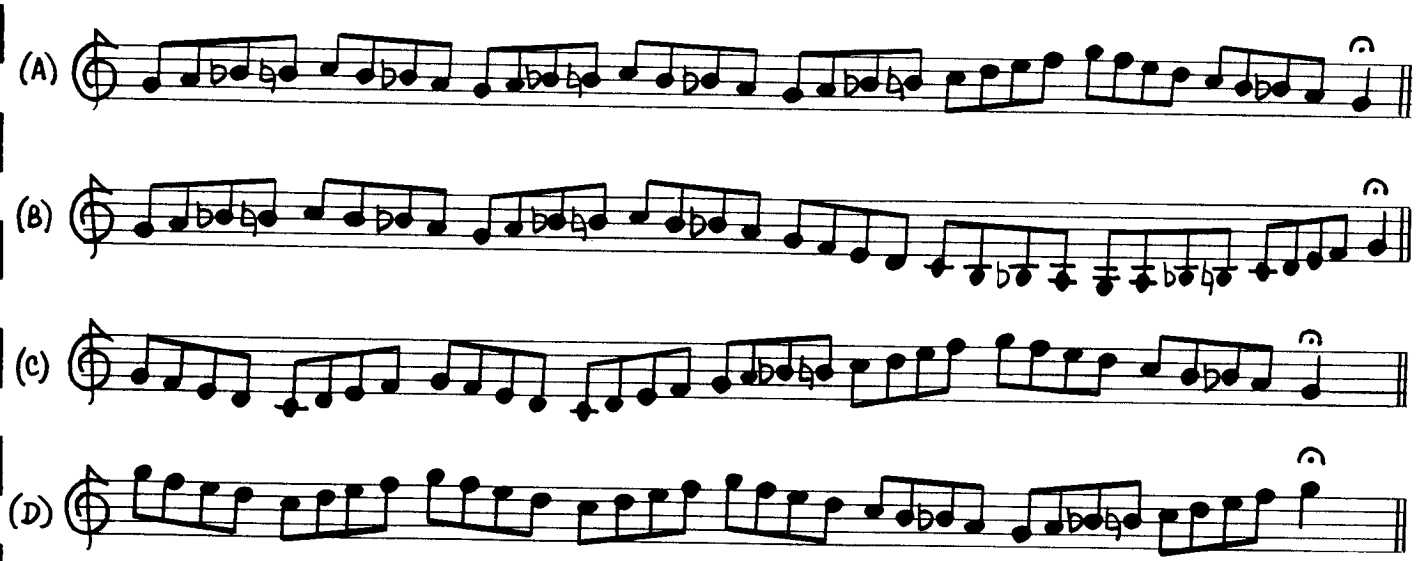
Each of the following exercises takes four forms:



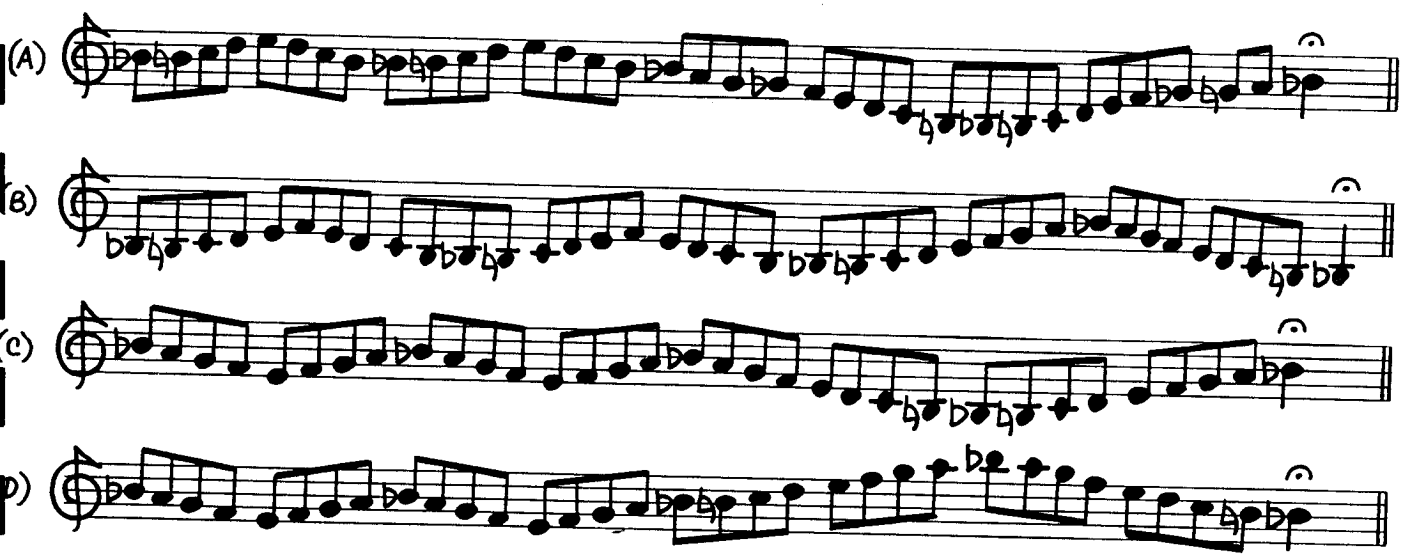
Practice the four forms from the 3rd of the chord, as in the following examples:



Practice the four forms from the 5th of the chord, as in the following examples:

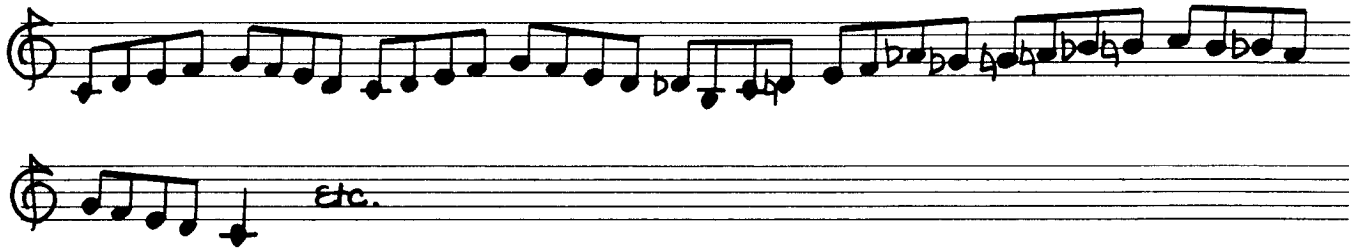


Practice the four forms from the b7 of the chord, as in the following examples:

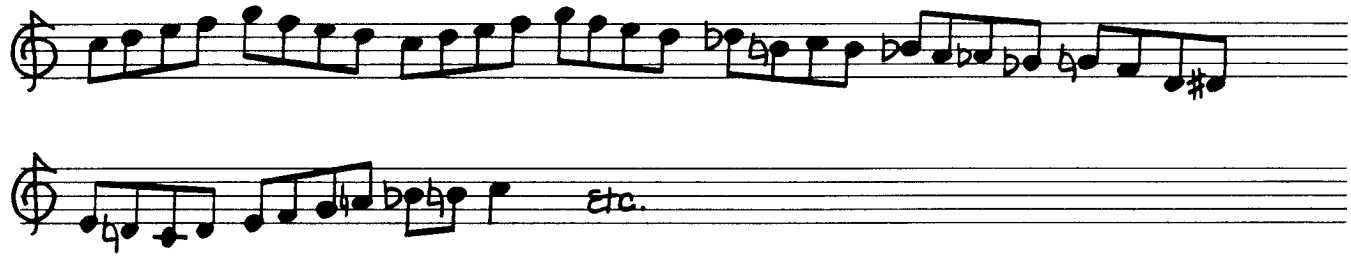


Some possible continuations using enclosure.

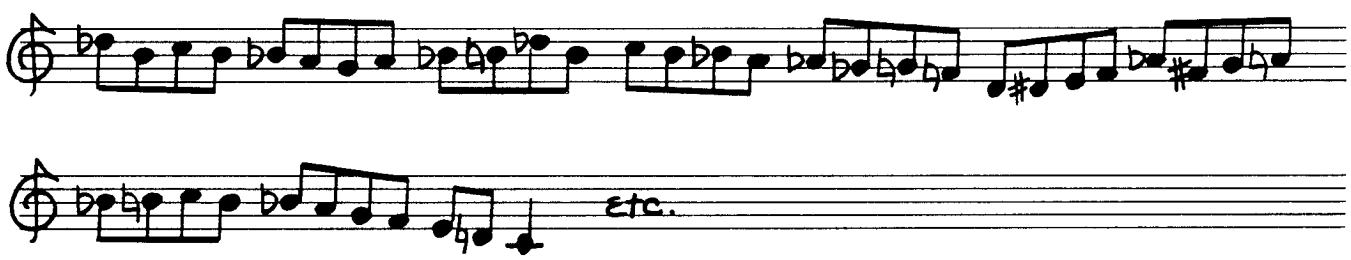
(1)



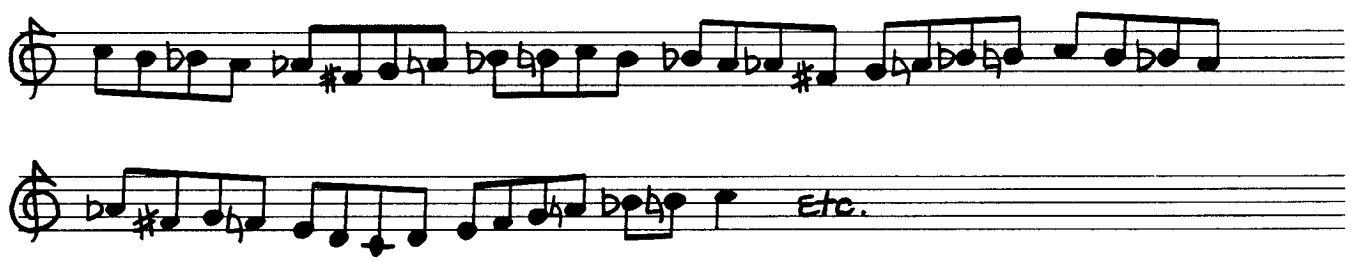
(2)



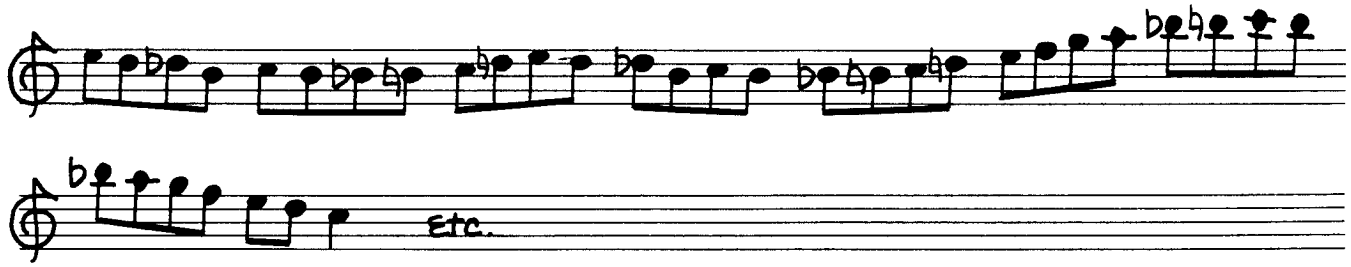
(3)



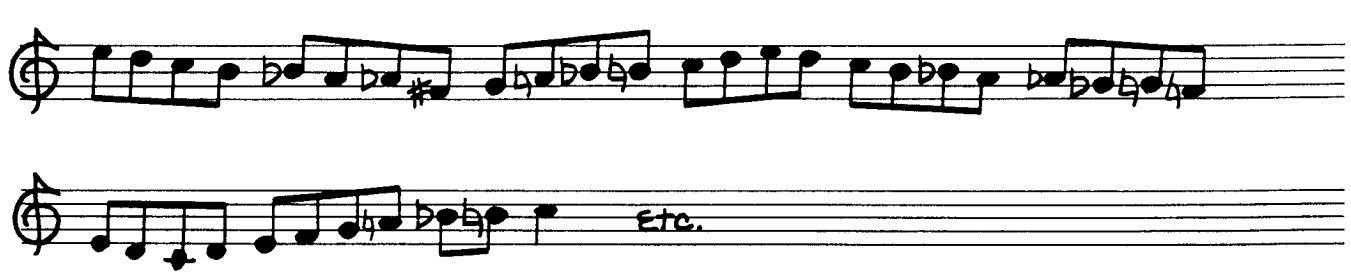
(4)



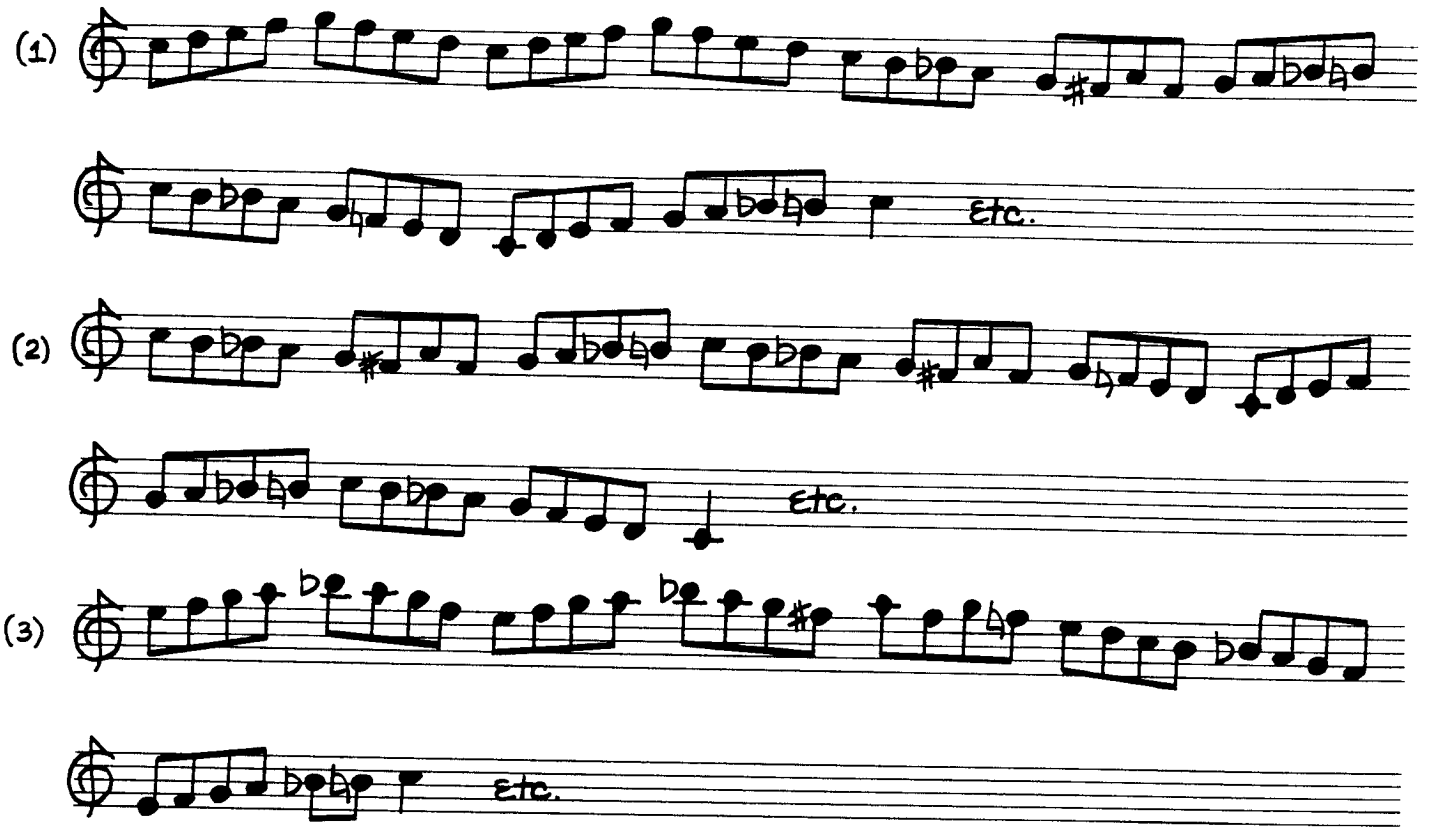
(5)



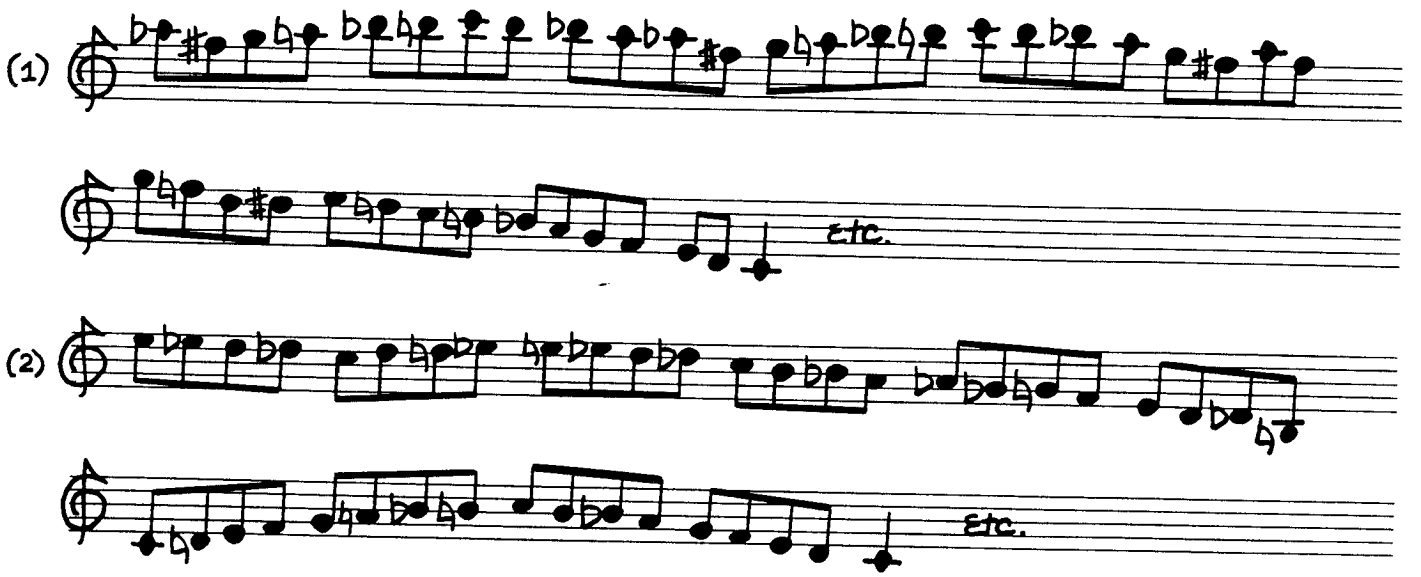
(6)



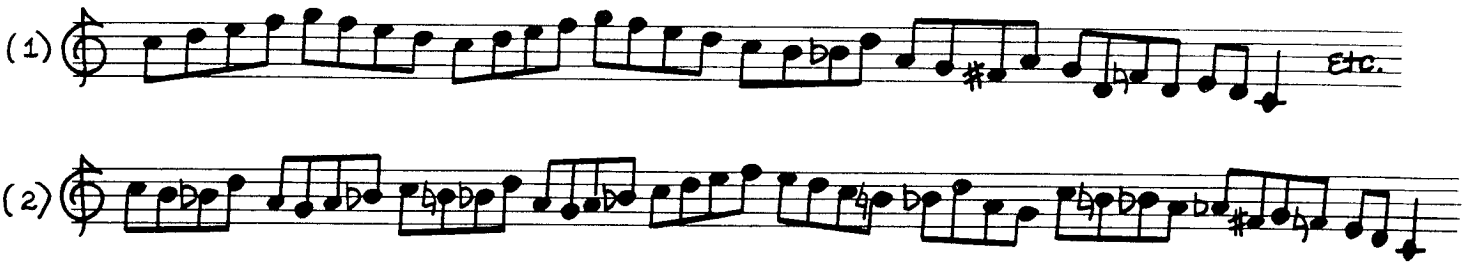
Some possible continuations using deflection.



Some possible continuations using enclosure and deflection.

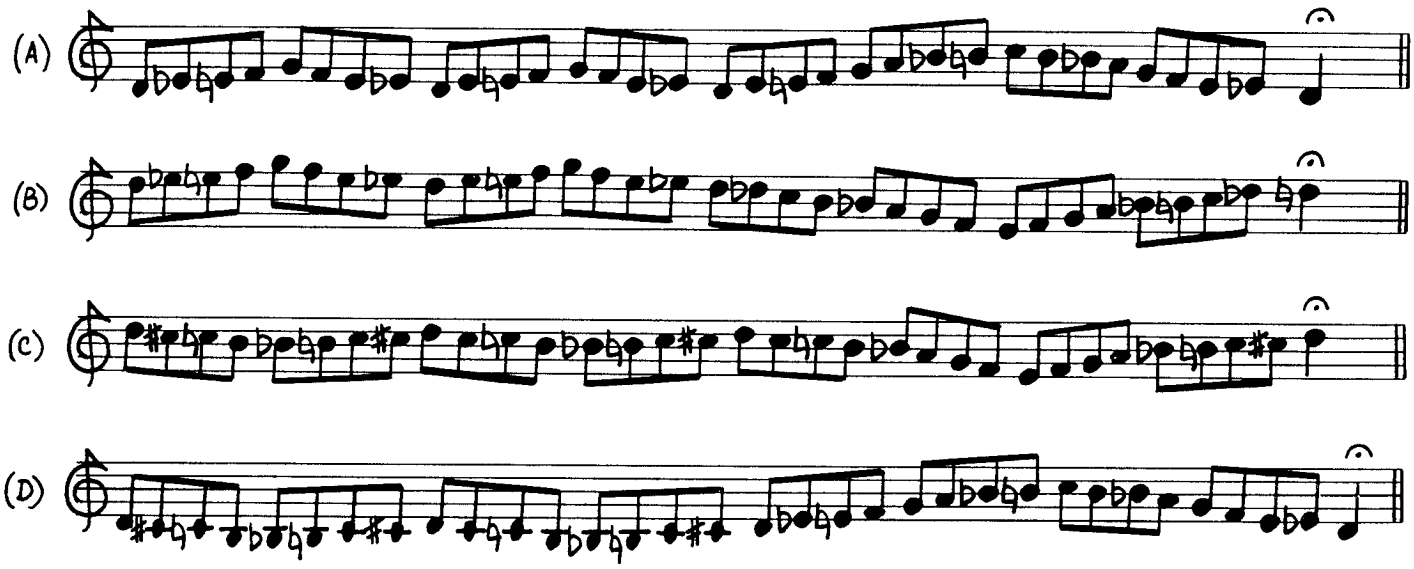


Continuations with various endings.



Use your imagination to develop other continuation exercises.

Using the rules for non-chord tones, construct exercises using all four forms, as in the following examples:



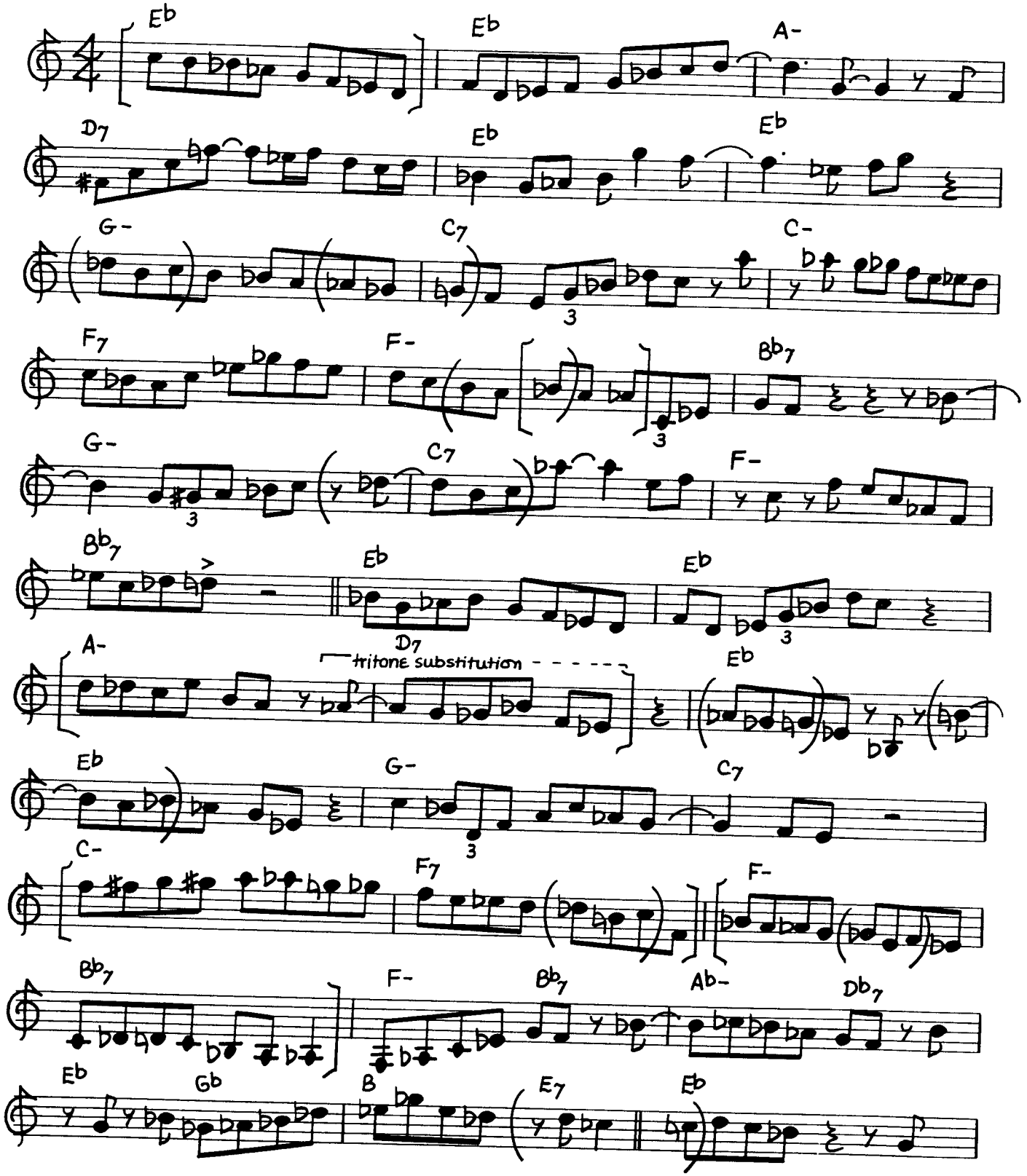
Practice these exercises from all twelve notes of the chromatic scale.

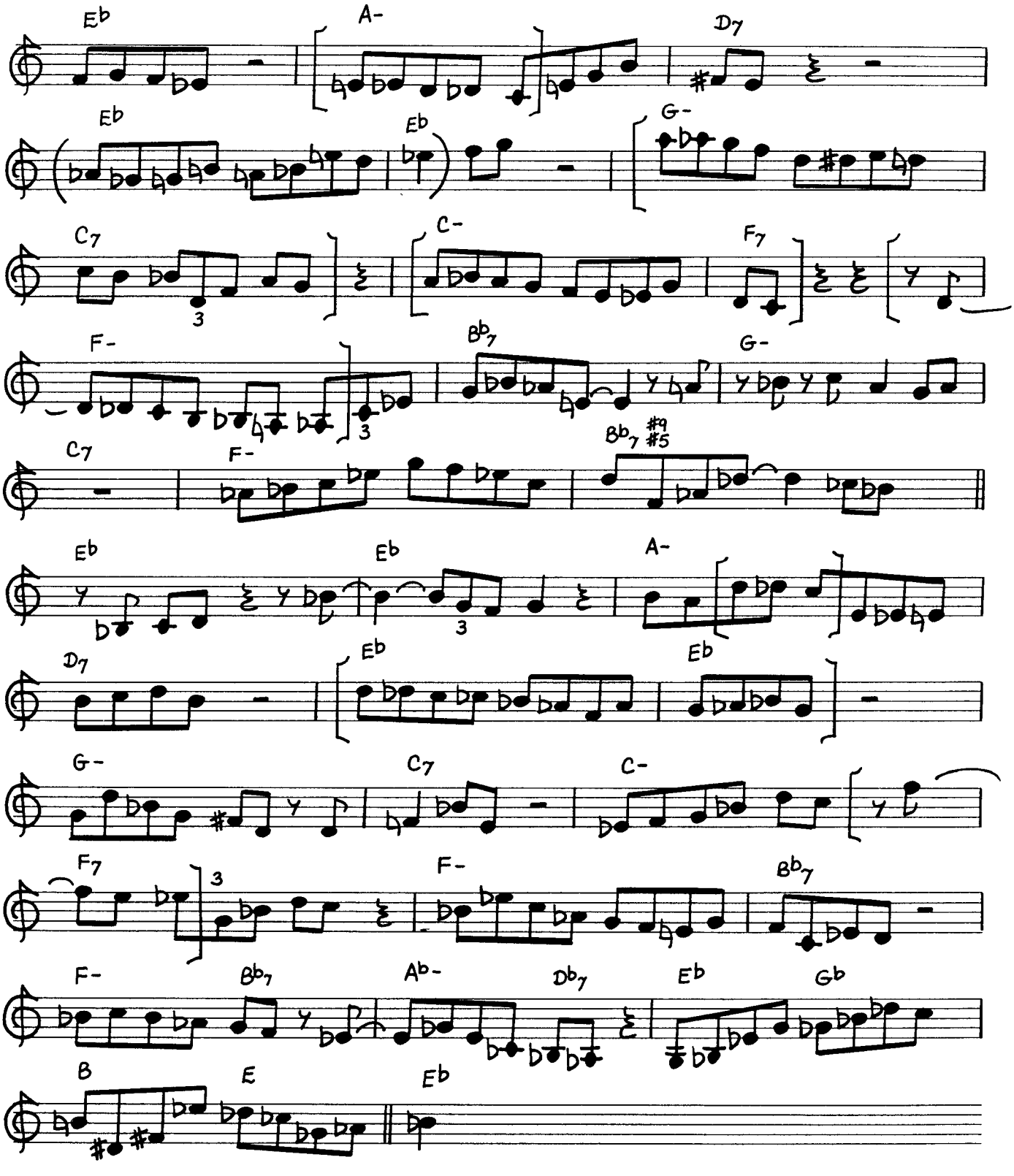
The bebop major scale calisthenics should be practiced in the same way, i.e., (1) four forms, (2) all chord tones, and (3) all non-chord tones.

BEBOP SOLO

( ) = indication of enclosure

[ ] = indication of bebop scale




Eb
A-
D7
Eb
Eb
G-
C7
C-
F7
F-
Bb7
G-
C7
F-
Bb7 #9 #5
Eb
Eb
A-
D7
Eb
Eb
G-
C7
C-
F7
F-
Bb7
F-
Bb7
Ab-
Db7
Eb
Gb
B
E
Eb

Part II

OTHER SCALES AND THEIR USE

The following syllabus is based on information gleaned from the study of performance practices of the major jazz figures from bebop forward.

SCALE SYLLABUS

Relationship Of Chords To Scales

Major Family

Chord Type (I)	Scale Form
Major — 1 3 5 7 9	Major 1 2 3 4 5 6 7 8
Major (♯4) 1 3 5 7 9 ♯11	Lydian 1 2 3 ♯4 5 6 7 8
Major (♯4 ♯5) 1 3 ♯5 7 9 ♯11	Lydian Augmented 1 2 3 ♯4 ♯5 6 7 8
Major (♭6 ♯9) 1 3 5 7 9 11 13	Augmented 1 ♯2 3 5 ♭6 7 1
Major 1 3 5 7 9	diminished 1 ♭2 ♭3 ♮3 ♯4 5 6 ♭7 8
Major 1 3 5 7 9	Harmonic Major 1 2 3 4 5 ♭6 7 8
Major 1 3 5 7 9	blues 1 ♭3 ♮3 4 ♯4 5 ♭7 8
Major 1 3 5 7 9	minor pentatonic 1 ♭3 4 5 ♭7 8
Major 1 3 5 7 9	Major pentatonic 1 2 3 5 6 8

minor Family

Chord Type	Scale Form
minor, tonic (I) Function	Dorian 1 2 ♭3 4 5 6 ♭7 8
	Natural minor 1 2 ♭3 4 5 ♭6 ♭7 8
	Phrygian 1 ♭2 ♭3 4 5 ♭6 ♭7 8
	Ascending Melodic minor 1 2 ♭3 4 5 6 7 8
	Harmonic minor 1 2 ♭3 4 5 ♭6 7 8
	minor pentatonic 1 ♭3 4 5 ♭7 8
	Blues 1 ♭3 ♮3 4 ♯4 5 ♭7 8
minor 7th (II) Function	Dorian 1 2 ♭3 4 5 6 ♭7 9
	Ascending melodic minor 1 2 ♭3 4 5 6 7 8
	Harmonic minor 1 2 ♭3 4 5 ♭6 7 1
	minor Pentatonic 1 ♭3 4 5 ♭7 8
	Blues 1 ♭3 3 4 ♯4 5 7 8
	diminished (start with whole step) 1 2 ♭3 4 ♯4 ♯5 6 7 8

Dominant Family

Chord Type	Scale Form
Dominant 7th unaltered 1 3 5 ♭7 9	Mixolydian 1 2 3 4 5 6 ♭7 8 Lydian Dominant 1 2 3 ♯4 5 6 ♭7 8 Major Pentatonic 1 2 3 5 6 8 minor Pentatonic 1 ♭3 4 5 ♭7 8 Blues 1 ♭3 ♮3 4 ♯4 5 ♭7 8
Dominant 7th ♯11 1 3 5 ♭7 9 ♯11	Lydian dominant 1 23♯4 5 6 ♭7 8
Dominant 7th ♭5, ♯5 or both 1 3 ♭5 ♭7 1 3 ♯5 ♭7 1 3 (♭5 ♯5) ♭7	Whole Tone 1 2 3 ♯4 ♯5 ♯6

Chord Type	Scale Form
Dominant 7th (♭9) 1 3 5 ♭7 ♭9	Diminished 1 ♭2 ♭3 ♮3 ♯4 5 6 ♭7 8
Dominant 7th ♯9 1 3 5 ♭7 ♯9	Diminished 1 ♭2 ♭3 ♮3 ♯4 5 ♭7 8 Diminished whole tone 1 ♭2 ♭3 ♮3 ♯4 ♯5 ♯6 8 Dorian 1 2 ♭3 4 5 6 ♭7 8 Blues 1 ♭3 ♮3 4 ♯4 5 ♭7 8 minor pentatonic 1 ♭3 4 5 ♭7 8
Dominant 7th ♭9 and ♯9	diminished 1 ♭2 ♭3 ♮3♯4 5 6 ♭7 8 diminished whole tone 1 ♭2 ♭3 ♮3 ♯4 ♯5 ♯6 8 minor pentatonic 1 ♭3 4 5 ♭7 8 Blues 1 ♭3 ♮3 4 ♯4 5 ♭7 8
Dominant 7th ♭5 and ♭9	diminished 1 ♭2 ♭3 ♮3 ♯4 5 6 ♭7 8 diminished whole tone 1 ♭2 ♭3 ♮3 ♯4 ♯5 ♯6 8 minor pentatonic 1 ♭3 4 5 ♭7 8 Blues 1 ♭3 ♮3 4 ♯4 5 ♭7 8
Dominant 7th ♭5 and ♭9 13 ♭5 ♭7 ♭9 ♯5 and ♯9 13 ♯5 ♭7 ♯9 ♭5 and ♯9 13 ♭5 ♭7 ♯9 ♯5 and ♭9 13 ♯5 ♭7 ♭9 (and/combination)	diminished scale 1 ♭2 ♭3 ♮3 ♯4 5 6 ♭7 8 minor pentatonic 1 ♭3 4 5 ♭7 8 Blues 1 ♭3 ♮3 4 ♯4 5 ♭7 8

Half-diminished chords

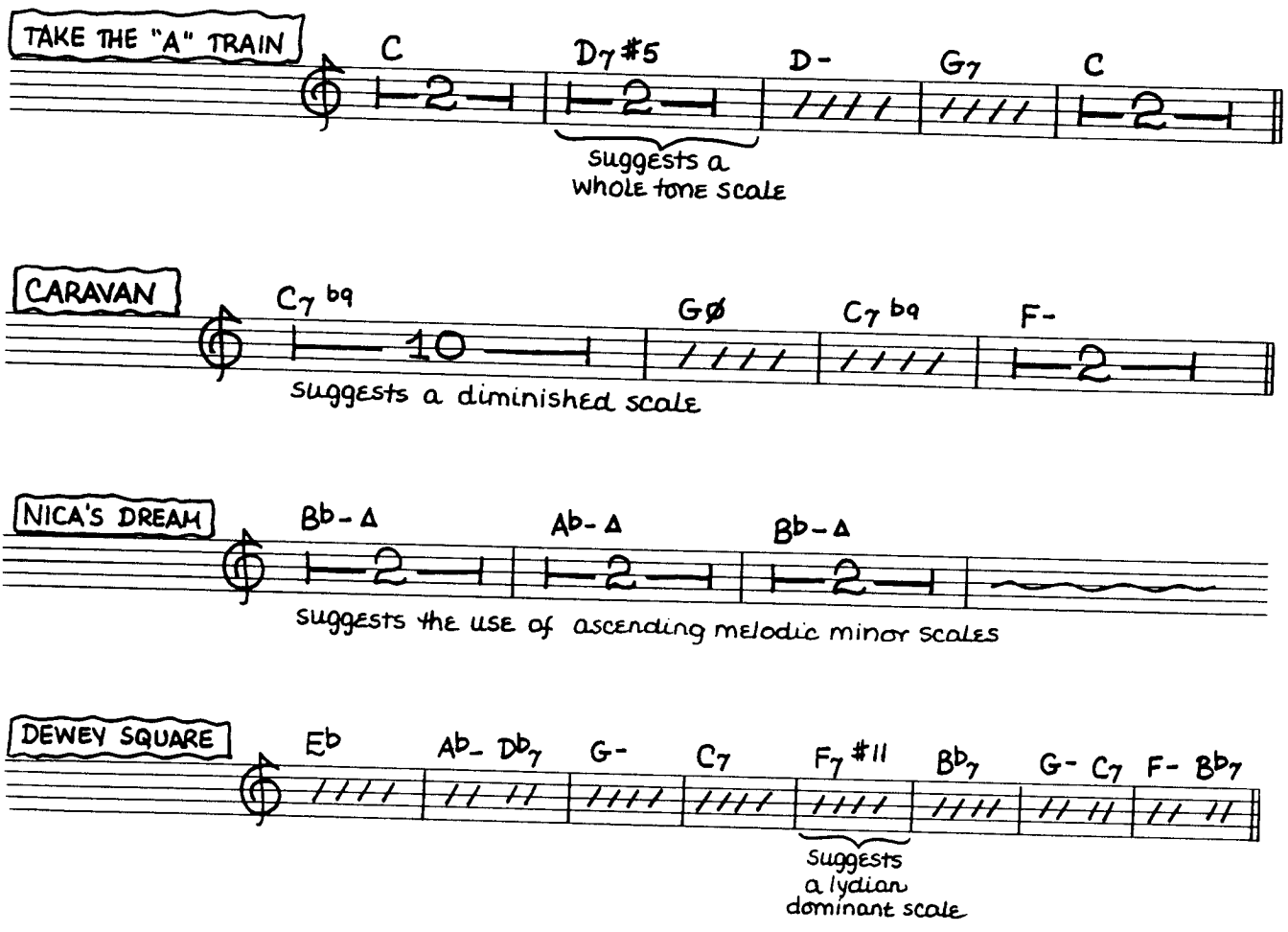
Chord Type	Scale Form
(half-diminished 7th (ø7) or minor 7th (♭5) 1 ♭3 ♭5 ♭7	Locrian 1 ♭2 ♭3 4 ♭5 ♭6 ♭7 8 Locrian ♯2 — 1 2 ♭3 4 ♭5 ♭6 ♭7 8 diminished (start with whole step) 1 2 ♭3 4 ♯4 ♯5 6 7 8 blues 1 ♭3 ♮3 4 ♯4 5 ♭7 8

diminished chords

diminished 7th (o7) 1 ♭3 ♭5 6	diminished scale (start with whole step) 1 2 ♭3 4 ♯4 ♯5 6 7 8

For specific information about the use of these scales I recommend any good improvisation method or scale book, i.e., *Jazz Improvisation* by David Baker, *The Complete Method for Improvisation* by Jerry Coker, *The Lydian Concept* by George Russell, *A New Approach To Ear Training for the Jazz Musician* by David Baker, *Scales for Jazz Improvisation* by Dan Haerle, etc.

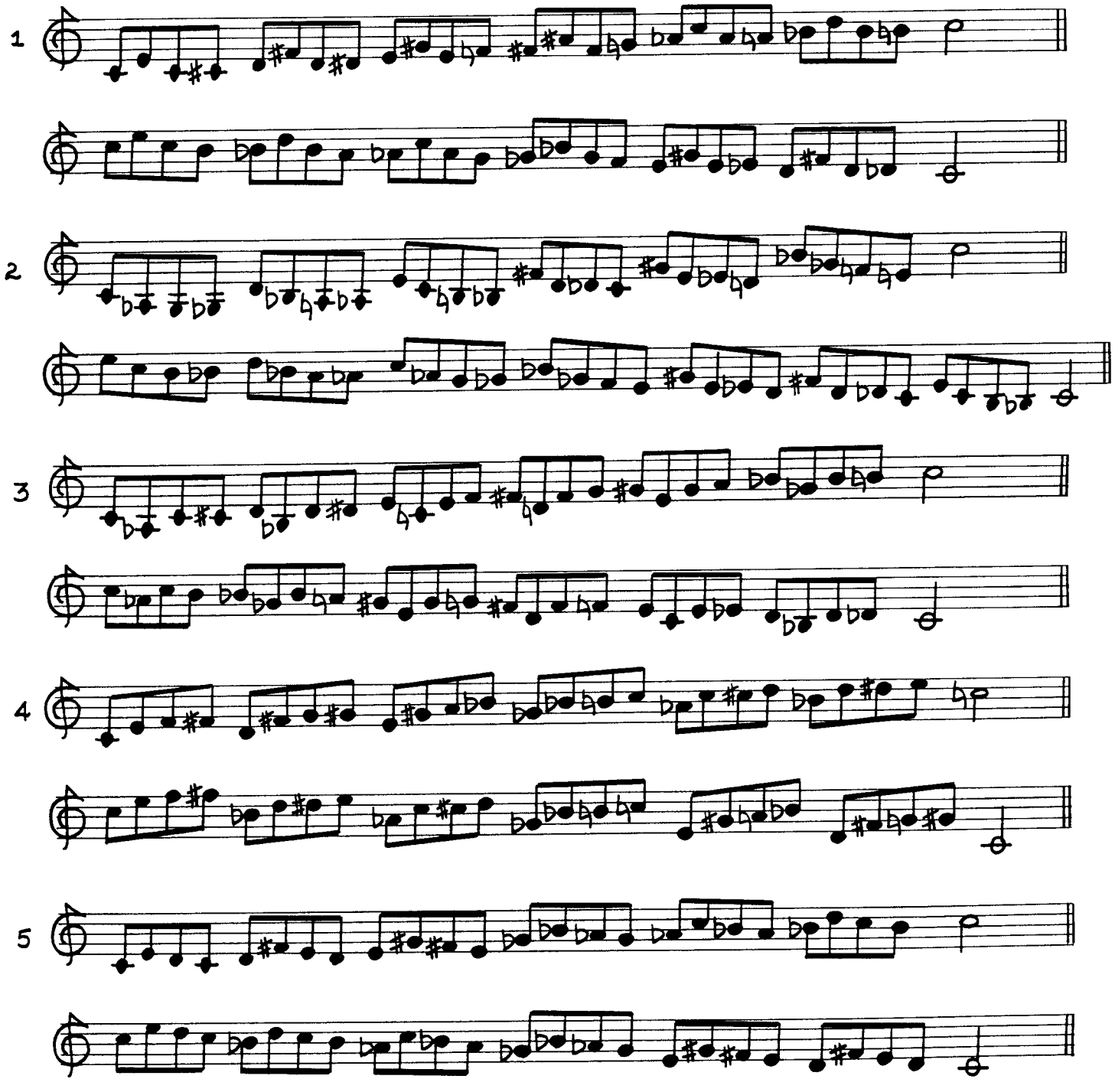
For all serious players the best method for learning the correct use of the scales is through the study of recordings by the jazz giants. One method of pursuing this information is to isolate situations in various tunes that logically suggest a particular scale, as in the following examples:

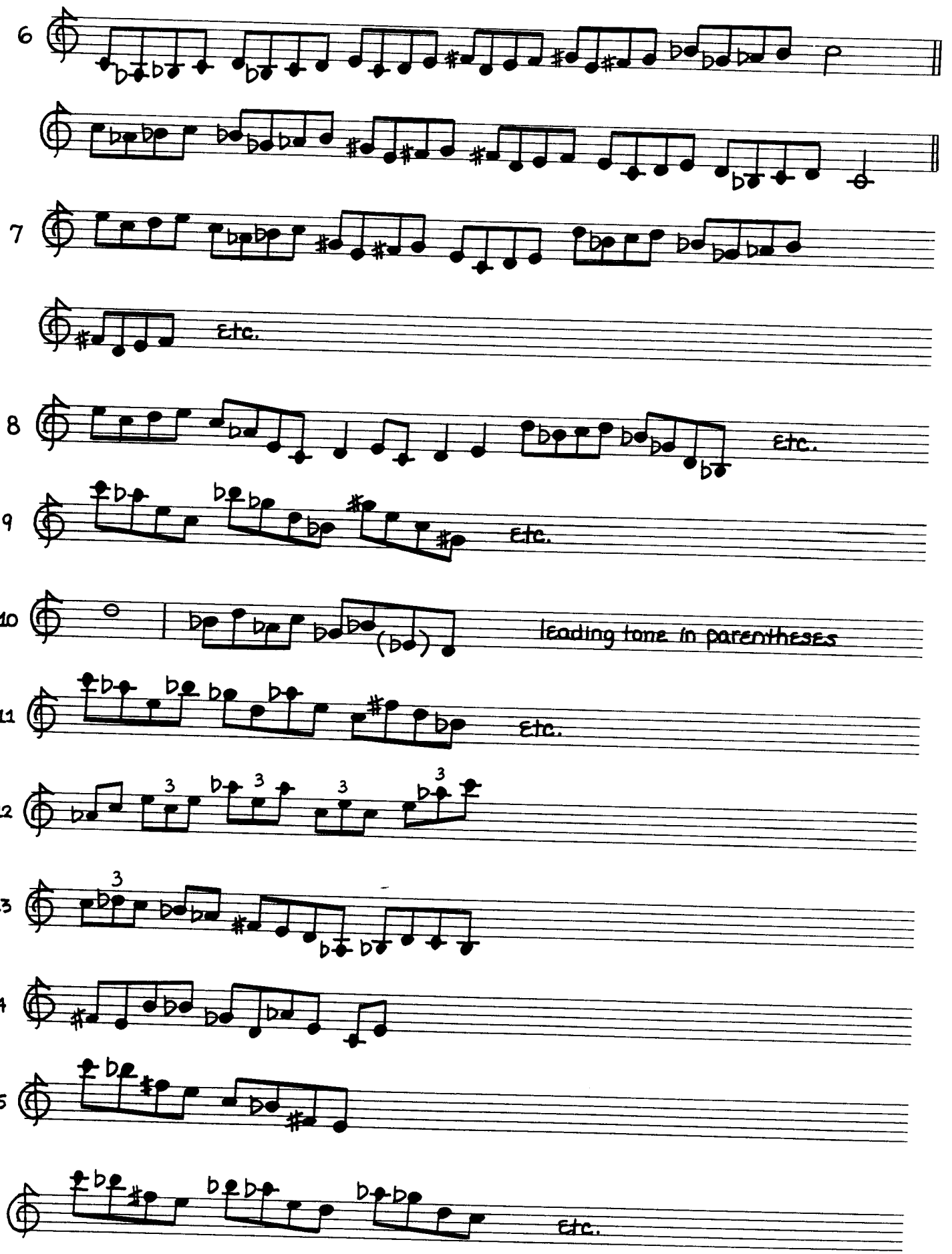


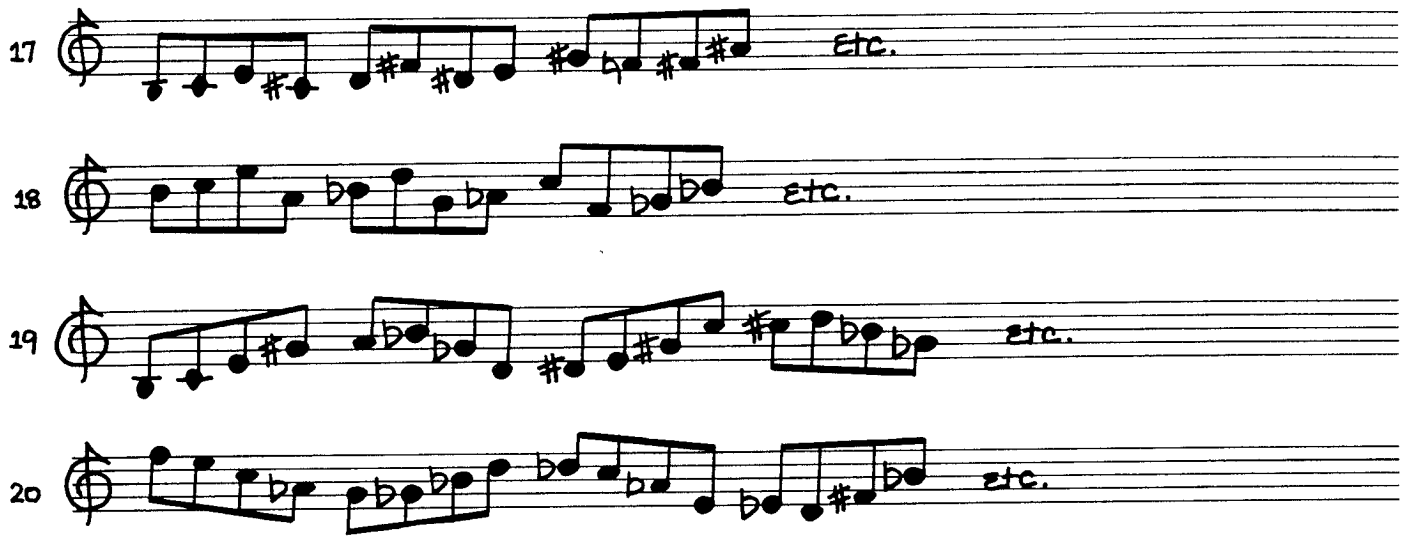
Observe how established players play over those changes. It is advisable to transcribe those patterns and commit them to memory for future use. To locate those places in tunes (and what specific tunes), search various fake books, sheet music, play-along booklets, etc.

The following public domain patterns for whole tone and diminished scales were gleaned from various solos by the established giants. Study, learn, and use the patterns in your playing and personalize them. Once the player understands the technique, the process should then be used to build a vocabulary based on the other scales.

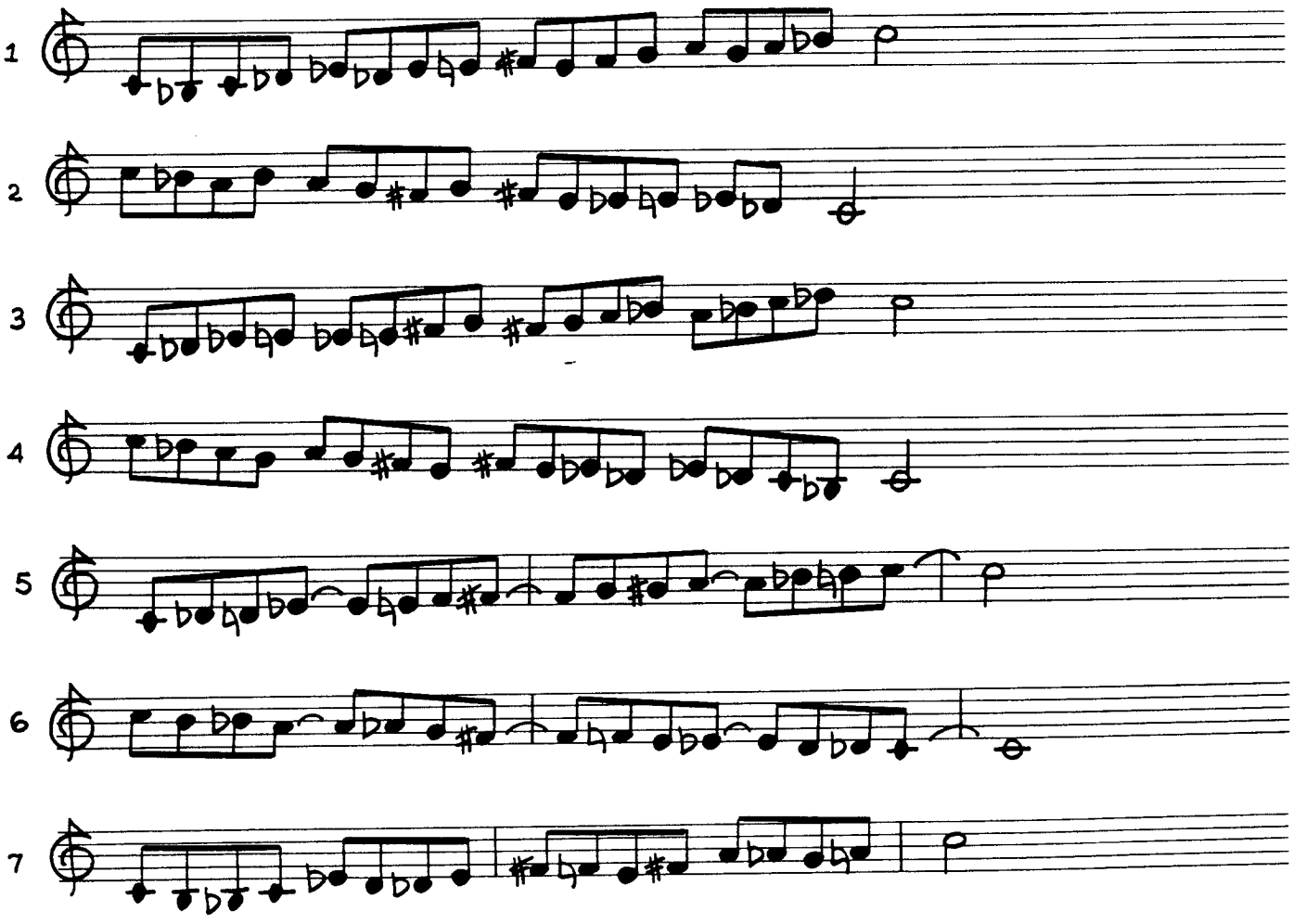
20 PUBLIC DOMAIN WHOLE-TONE PATTERNS

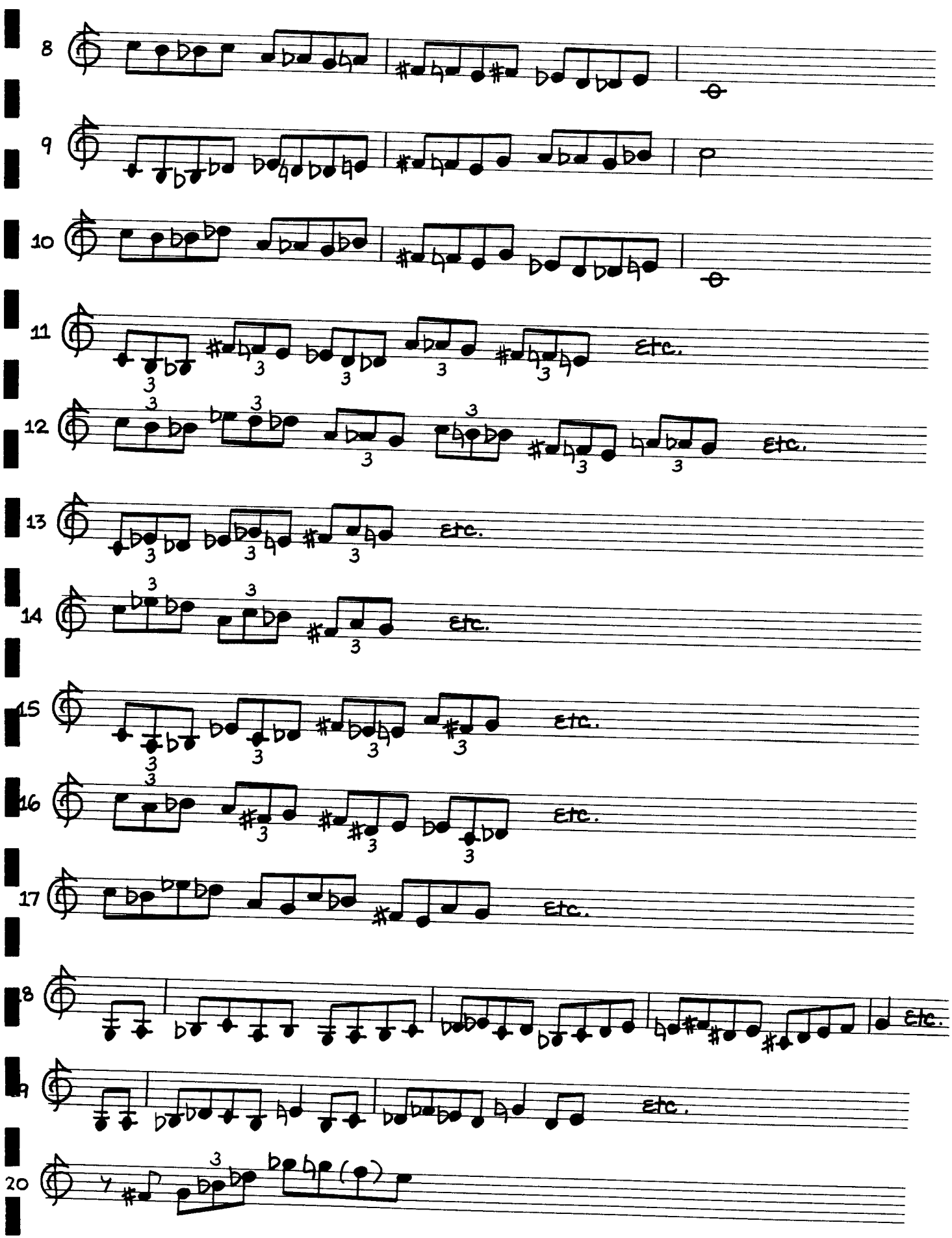


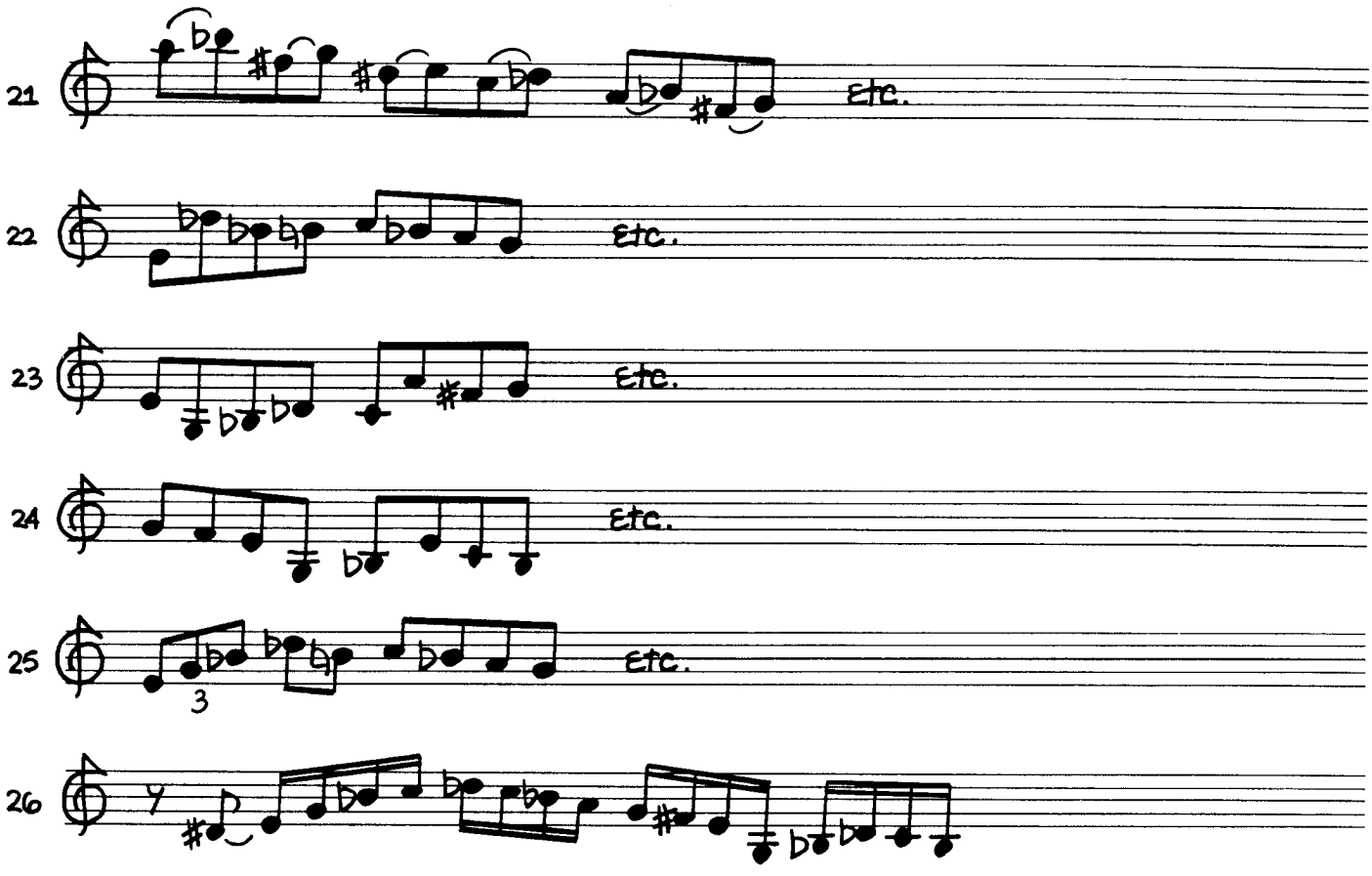

6
7
etc.
8
etc.
9
etc.
10
leading tone in parentheses
11
etc.
12
13
14
15
16
etc.



26 PUBLIC DOMAIN DIMINISHED PATTERNS




8
9
10
11
etc.
12
etc.
13
etc.
14
etc.
15
etc.
16
etc.
17
etc.
18
etc.
19
etc.
20



The reader may wish to practice the exercises in this book with the Jamey Aebersold jazz play-along records, particularly the following:

Volume 3: The II V_7 Progression
Volume 6: All Bird
Volume 16: Turnarounds, Cycles & II/V_7s
Volume 21: Gettin' It Together
Volume 24: Major & Minor