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# Teaching Jazz Improvisation Using Macro-Analytical Techniques

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Students of jazz must overcome several hurdles in their development as musicians. Technical fluidity may be mastered in a practice room, but skills related to style and performance practice are best obtained through experience. A command of aural skills such as the recognition of intervals, chords, scales and form is imperative. A theoretical approach to performance is another important component of a jazz musician's education. The aim of this article is to demonstrate to jazz educators, theorists and performers that macro analysis can be one of the most useful tools in developing this approach.

In my years of teaching jazz improvisation, I have noticed students who improvise solely by ear—without an understanding of the underlying theory—have a very limited improvisational vocabulary and struggle with many of the same problems. They improvise diatonically, lose the form,<sup>1</sup> improvise melodies that lack harmonic direction and do not resemble the original melody, and do not resolve guide tones.<sup>2</sup> I have found that applying macro-analytical techniques to teaching jazz improvisation greatly improves students' understanding of jazz harmony, and consequently, improves their improvisational skills. Macro analysis can help the performer understand the melodic and harmonic structure of a composition, leading to a more successful performance, including solo improvisation. A song's formal structure will become clearer, reducing the likelihood of getting lost in the form. Moreover, Roman numerals, used in conjunction with macro analysis slurs, increase the student's ability to transpose the tune to a different key, which is especially useful when working with vocalists and transposing instruments.

## How Do I Slur?: Roman Numerals and Macro Slurs

Roman numerals are commonly used for the analysis of common

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1. *Losing the form* is a colloquialism among jazz musicians meaning to lose one's place in the song.

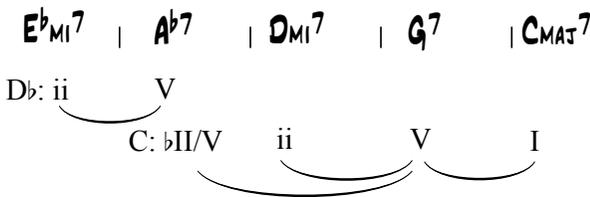
2. Guide tones are sometimes called active tones or tendency tones.

practice harmony; macro analysis adds chord names and slurs. In a jazz lead sheet, chord symbols are usually provided.<sup>3</sup> Although Roman numerals are used in jazz analysis and when musicians speak to one another in a performance or rehearsal setting, they are almost never given in a lead sheet. Because chord symbols are provided above the staff, to place macro symbols (i.e. letter names) below the staff would be redundant and, in some cases, counterproductive. Label Roman numerals below the staff, connecting them with macro slurs when appropriate. Slur the chords that move through the I–IV–vii<sup>o</sup>–iii–vi–ii–V–I circle progression.<sup>4</sup> If the circle progression seems to be broken, a substitution may have occurred, and further analysis may be required. If the chord is deemed a substitute, it should be slurred.



**Example 1. Sample Circle Progression with Substitute Chords.**

Due to the ascending fourth relationship between the chord-roots in Example 1, the motion from  $A\flat 7$  to  $Dm 7$  may appear to be a part of a circle progression. The  $A\flat 7$  is, however, a tritone substitute for  $D 7$ , so the slur should connect the  $A\flat 7$  to the  $G 7$ .  $Dm 7$ – $G 7$  is a ii–V elaboration of  $G 7$ , and  $E\flat m 7$ – $A\flat 7$  is a ii–V elaboration of  $A\flat 7$ . At a deeper level, the progression of the five measures is  $D 7$ – $G 7$ – $Cmaj 7$ . In order to keep the original harmonic progression and account for the connection of  $A\flat 7$  to  $G 7$ , apply slurs as shown in Example 2.



**Example 2. Sample Circle Progression with Substitute Chords (with Slurs).**

3. Many times, what is actually played is harmonically richer, but simpler chords are printed in the lead sheet. This allows for greater freedom when interpreting the harmony and for simplicity's sake when sight-reading. It is perfectly acceptable to alter the published chord changes for analytical purposes, as they are often incomplete, uncommon or incorrect.

4. When moving through the entire circle progression, the IV will usually appear as a  $\text{iv}$  half-diminished chord and the vii chord as a  $V^7(\text{alt})/\text{iii}$  (i.e., a minor ii–V in the key of iii), and the vi is often a  $V^{7(9)}/\text{ii}$ .

## Dotted slurs for $\circ 7$ chords?

Many times, especially in piano voicings, the root of a chord is absent. This allows the bassist to substitute different bass notes. If the bassist decides to play the third of a  $V^{7(9)}$  chord, the resultant chord is a  $vii^{\circ 7}$ .<sup>5</sup> The function is still dominant; therefore, a solid slur should be drawn (in traditional macro analysis, dotted slurs are used for  $vii^{\circ}$  chords that resolve to I). This practice may be applied to any other substituted bass notes.

Fully-diminished seventh chords do not always function as dominant substitutes. Sometimes, they function as common-tone diminished seventh chords ( $ct^{\circ 7}$ ). Steven Strunk calls this type of chord a  $\sharp II^{\circ 7}$  prefix.<sup>6</sup> The  $ct^{\circ 7}$ , often spelled as a fully-diminished seventh chord built on  $\sharp II$  (e.g.,  $D^{\sharp \circ 7}$  in C major), can appear in several forms. Enharmonically respelled,  $D^{\sharp \circ 7}$  can be  $F^{\sharp \circ 7}$ ,  $A^{\circ 7}$ , or  $C^{\circ 7}$ . In a lead-sheet, many chord symbols are respelled enharmonically for easier spelling, without regard to their function. Because a fully-diminished seventh chord is a substitute for a dominant seventh<sup>7</sup> with an added flatted ninth, the  $D^{\sharp \circ 7}$  may be a  $B^{7(9)}$ . This is also the case for the enharmonically respelled chords:  $F^{\sharp \circ 7}$  ( $D^{7(9)}$ ),  $A^{\circ 7}$  ( $F^{7(9)}$ ) or  $C^{\circ 7}$  ( $A_b^{7(9)}$ ). If a  $D^7$  appears in the progression but does not resolve as a dominant function (e.g.,  $V/G$  or  $\flat II/C\sharp$ ), it could be a  $\sharp II^{\circ 7}$  prefix ( $\sharp II^{\circ 7}/C$ ,  $\sharp II^{\circ 7}/A$ ,  $\sharp II^{\circ 7}/F\sharp$ ,  $\sharp II^{\circ 7}/E_b$ ).

Example 3.  $\sharp II^{\circ 7}$  Prefix.

In his article “The Harmony of Early Bop: A Layered Approach,” Strunk uses a double-arrow symbol to label a  $\sharp II^{\circ 7}$  prefix. The symbol may be used in macro analysis to distinguish a  $\sharp II^{\circ 7}$  prefix from being of dominant function.

In *I’m Beginning To See The Light* (Duke Ellington et al.), the  $iii-vi-$

5. A fully-diminished seventh chord often appears on  $\sharp I$ , functioning as a  $vii^{\circ 7}/ii$ , a substitute for the  $V^7/ii$ .

6. Strunk, Steven. “The Harmony of Early Bop: A Layered Approach,” *Journal of Jazz Studies* 6 (1) (Fall/Winter 1979): 4–53.

7. Jazz musicians use the term *dominant-seventh chord* synonymously with *major-minor seventh chord* even when the chord’s root is not  $\flat 5$  or not functioning as a  $V$  in a key.

ii–V turnaround<sup>8</sup> in A $\flat$  major can be reduced to an E $\flat$ 7 chord. A dominant chord built on  $\flat\hat{6}$  is usually a  $\flat$ II/V or a  $\sharp$ II<sup>o7</sup> prefix.<sup>9</sup> Because the E $\flat$ 7 resolves to G, it is the latter. An E $\flat$ 7 is a substitute for an E<sup>o7</sup>, which when respelled as A $\sharp$ <sup>o7</sup>, is the  $\sharp$ II<sup>o7</sup> chord in G major.

The inexperienced improviser will treat two chords with the same quality similarly, regardless of their function within the progression. Macro analysis, with the aid of Roman numerals, helps the performer approach the harmony in an appropriate manner. A chord of dominant or fully-diminished quality without a slur tells the performer it is not functioning as a dominant, and should not be approached as such. A double-arrow symbol explains the resolution of the common-tone diminished seventh chord by defining it as a  $\sharp$ II<sup>o7</sup> prefix.

The musical notation shows a sequence of chords: G<sup>6</sup>, C<sub>M</sub>7, F<sup>7</sup>, B $\flat$ <sub>M</sub>7, E $\flat$ 7, and G<sup>6</sup>. Below the staff, Roman numeral analysis is provided: G: I, Ab: iii, V/ii, ii, G: ct<sup>o7</sup>, and I. A double arrow points from G: ct<sup>o7</sup> to I. Brackets and lines connect the chords to their respective Roman numerals.

Example 4. Excerpt from *I'm Beginning To See The Light* with a  $\sharp$ II<sup>o7</sup> Prefix<sup>10</sup>

## The One-Scale-Fits-All Improviser

Some inexperienced improvisers attempt an entire solo using only one scale, diatonically, and without regard to the harmonic progressions. In order to improve their improvisational skills and yet still allowing them to use the one-scale-fits-all approach with which they are comfortable, have these students pay special attention to the chords by making note of which scale degrees are chord members and which are extensions of the chord.<sup>11</sup> Explain that some scale degrees sound better on some chords than others. For example:

8. A turnaround is a harmonic progression that ends with a cadence (e.g., vi–ii–V–I). Turnarounds are usually found at the end of a formal section (vi–ii–V) and the resolution (I) is at the beginning of the next section.

9. If a dominant chord built on  $\flat\hat{6}$  resolves to V, it is a  $\flat$ II/V, and it may also be interpreted as an enharmonically-respelled augmented sixth chord:  $\flat$ II<sup>7(no5)</sup>/V is It<sup>+6</sup>,  $\flat$ II<sup>7(5)</sup>/V is Fr<sup>+6</sup>, and  $\flat$ II<sup>7</sup>/V is Ger<sup>+6</sup>.

10. The <sup>7</sup> is usually not included in the Roman numeral analysis of jazz, as it is assumed that most chords include the seventh.

11. For example, explain that a ii<sup>7</sup> chord in a major key has  $\hat{2}$ ,  $\hat{4}$ ,  $\hat{6}$  and  $\hat{1}$  as its root, third, fifth and seventh, respectively. Explain the other notes of the scale as extensions to that chord:  $\hat{3}$  is the ninth,  $\hat{5}$  is the eleventh and  $\hat{7}$  is the thirteenth.

- Tonic ( $\hat{1}$ ) played on the V chord creates a dissonance with the leading tone ( $\hat{7}$ ) and is often avoided, or at the very least, treated carefully.<sup>12</sup>
- $\hat{4}$  played on the I chord creates a similar dissonance to that of  $\hat{1}$  on the V.
- $\hat{7}$  played on the ii chord is not dissonant but a sonority which implies the dominant harmony.

Have the student play  $\hat{1}$  over the ii resolving to  $\hat{7}$  on the V. Mention that  $\hat{1}$  is the seventh of the ii chord, and  $\hat{7}$  is the third of the V chord. Show that  $\hat{4}$  is a common tone for the ii (the third) and V (the seventh), and that it resolves to  $\hat{3}$  (the third of the I). This demonstrates how some notes sound better on certain chords and that when moving through a circle progression, thirds become sevenths and sevenths become thirds. If a completely diatonic chord progression is provided, the student can be comfortable using the one-scale-fits-all approach, yet still create a successful solo given that close attention is given to the harmony, choice of scale degrees, and the resolution of chord tones.

Some students do not realize that secondary key areas occur frequently in jazz, and they must pay attention to the chord changes. As shown in Example 5, have the student circle the ii–V–I progressions by scanning lead sheets for adjacent chords whose roots ascend by fourth and with the following chord qualities:

1. a minor seventh chord followed by a dominant seventh chord resolving to a major seventh chord (the major ii–V–I).
2. a half-diminished seventh chord (or minor <sup>7(5)</sup>) followed by a dominant chord (often altered) that resolves to a minor seventh chord (the minor ii–V–i).<sup>13</sup>

The image shows two staves of musical notation in 4/4 time. The first staff begins with a G major 7 chord (GMA7) over a melodic line. This is followed by an F major progression consisting of FMI7, C7, and FMA7 chords. The second staff begins with an Eb major progression consisting of EbMI7, Bb7, and EbMA7 chords. This is followed by a G minor progression consisting of Gmi7(b9), D7, and GMI7 chords. The notation includes treble clefs, a key signature of one sharp (F#), and various chord symbols with their respective qualities.

**Example 5. Morgan Lewis's *How High The Moon*, mm. 1–11.**

12. One could use  $\hat{1}$  on the V chord as a 4–3 suspension, an anticipation of the I chord, a passing tone, or some other non-chord tone.

13. Marilyn Saker's "Macro Analysis and Modulation Identification" from *MACRO Circular 3* (Winter 1997) suggests the student look for major-minor seventh chords within a progression to discover secondary key areas. The concept stays true for jazz analysis, although one should also look for the minor seventh (or half-diminished) chord preceding the dominant chord.

Once the ii–V–I progressions are circled, have the student improvise over the key areas with the one-scale-fits-all approach. For the first eleven measures of *How High The Moon*, as illustrated in Example 6, the student should improvise for two measures in G major, four measures in F major, three measures in E $\flat$  major, and then two measures in G minor.

The image shows two musical staves. The first staff is labeled 'G major' and the second 'F major'. The second staff is labeled 'E $\flat$  major' and the third 'G minor'. The staves are empty, indicating key areas for improvisation.

Example 6. Key Areas of *How High The Moon*, mm. 1–11.

Adding slurs to adjacent chords whose roots are related by fourth—an integral part of macro analysis—shows the harmonic direction and resolutions within each key area, and will aid the student in creating improvised melodies that are more satisfying (see Example 7).

The image shows a musical staff with chord names and Roman numerals. The chords are: G $\text{MA7}$  (G: I), F: ii, C $^7$  (V), F $\text{MA7}$  (I), F $\text{M}^7$  (E $\flat$ : ii), B $\flat^7$  (V), E $\flat$  $\text{MA7}$  (I), A $\text{M}^7(\flat 5)$  (g: ii), D $^7$  (V), G $\text{M}^7$  (i). Slurs connect adjacent chords whose roots are related by fourth.

Example 7. Macro Analysis of *How High The Moon*, mm. 1–11.

By labeling the thirds and sevenths of each chord above and below the slur (shown in Example 9), one will see how the guide tones move within the keys and how they produce a smooth modulation. In Example 9, the upper level of the guide tones reveals the structural soprano of the melody. Following the contour of the melodic structure will force the performer to stay closer to the original melodic material when improvising.

Example 8 shows voice leading for the following chords:  $G_{MA7}^7$ ,  $G_{MI}^7$ ,  $C^7$ ,  $F_{MA7}^7$ ,  $F_{MI}^7$ ,  $B^b7$ ,  $E^b_{MA7}^7$ ,  $A_{MI}^7(b9)$ ,  $D^7$ , and  $G_{MI}^7$ .

Example 8. Voice Leading (Thirds and Sevenths) in  
*How High The Moon*, mm. 1–11.

Example 9 shows macro analysis of voice leading for the following chords:  $G_{MA7}^7$ ,  $G_{MI}^7$ ,  $C^7$ ,  $F_{MA7}^7$ ,  $F_{MI}^7$ ,  $B^b7$ ,  $E^b_{MA7}^7$ ,  $A_{MI}^7(b9)$ ,  $D^7$ , and  $G_{MI}^7$ .

Labels for Example 9 include:  $G: I$ ,  $F: ii$  (notes  $B^b$ ,  $F$ ),  $V$  (notes  $B^b$ ,  $E$ ),  $I$  (notes  $A$ ,  $E$ ),  $E^b: ii$  (notes  $A^b$ ,  $E^b$ ),  $V$  (notes  $A^b$ ,  $D$ ),  $I$  (notes  $G$ ,  $D$ ),  $g: ii$  (notes  $G$ ,  $C$ ),  $V$  (notes  $F\#$ ,  $C$ ),  $i$  (notes  $F$ ,  $B^b$ ).

Example 9. Macro Analysis of *How High The Moon*,  
mm. 1–11 with Thirds and Sevenths Labeled.

## Tunnel Vision When Learning Chord-Scale Relationships

Once students have progressed beyond the one-scale-fits-all stage, they begin to learn specific scales that work over specific chords (i.e., chord-scale relationships). The first scales learned for the major ii–V–I progression are Dorian mode over ii, Mixolydian mode over V, and the major scale over I. Because the progression is diatonic, the three modes contain the same seven pitches (similar to the one-scale-fits-all approach), and therefore, familiar. Of course, the result is more musical than one-scale-fits-all, as the approach to each chord is different. Once having learned various chord-scale relationships, the inexperienced improviser occasionally loses sight of the harmonic direction, ignoring the function of each chord. I describe this type of improviser as having tunnel vision.

**D<sub>M</sub>7(b<sup>9</sup>)**  
Locrian #2  
(i.e., 6th mode of the ascending minor scale)

**D<sup>b</sup>7(b<sup>9</sup>)(#11)**  
Lydian-Dominant  
(i.e., 4th mode of the ascending minor scale)

D Locrian #2

D<sup>b</sup> Lydian Dominant

F melodic minor (ascending)

A<sup>b</sup> melodic minor (ascending)

**C<sub>M</sub>9**  
Dorian

C Dorian

Example 10. Scale Suggestions for ii-V-i in C minor.

Macro analysis can help the improviser connect various scales to one another. For example, the progression  $Dm^{7(5)}-D_7^{7(\sharp 11)}-Cm^9$  may suggest three different scales: D Locrian #2, D<sup>b</sup>, Lydian-Dominant, and C Dorian.<sup>14</sup> If the performer is overly concerned with using appropriate scales, the circle progression might go unnoticed. The  $D_7^{7(\sharp 11)}$  is a tritone substitute for the  $G^7$ , so slurs are applied to and from the chord.<sup>15</sup> By labeling guide tones next to the slurs, Example 11 demonstrates that tritone substitutes contain similar thirds and sevenths. The performer may choose to emphasize these guide tones within the scales in order to emphasize the harmonic direction.

**D<sub>M</sub>7(b<sup>9</sup>)**   **D<sup>b</sup>7(b<sup>9</sup>)(#11)**   **C<sub>M</sub>9**

ii C   <sup>b</sup>II C<sub>b</sub>   i B<sub>b</sub>

F   F   E<sub>b</sub>

**D<sub>M</sub>7(b<sup>9</sup>)**   **G<sup>7</sup>**   **C<sub>M</sub>9**

ii C   V B   i B<sub>b</sub>

F   F   E<sub>b</sub>

Example 11. ii-V-i in C Minor with Slurs and Guide Tones Labeled.

14. Because  $\hat{6}$  over a minor tonic harmony is generally avoided in jazz, Dorian and ascending melodic minor are preferred over natural minor.

15. A tritone substitution is when the root of dominant seventh chord is replaced with the pitch a tritone away. The resultant chord is also dominant seventh, as the third and seventh of the original chord become the seventh and third when respelled enharmonically. For instance, the tritone substitution of  $G^7$  is  $D_7^7$ : the B and F of the  $G^7$  become C<sub>b</sub> and F of the  $D_7^7$ .

## What Song Are We Playing Again?

Another problem commonly found among inexperienced improvisers is the lack of reference to the melody, especially by the improviser with tunnel vision. When the focus is solely on the individual chords, the attention to harmony overshadows the melodic content. When the melody closely relates to the harmony, an analysis of the linear structure of a piece helps solve this problem.<sup>16</sup>

By labeling the thirds and sevenths along each slur (as in Examples 9 and 11), the whole-step, half-step, and common-tone motion will become clearer, and may help explain some modulations.<sup>17</sup> By labeling the thirds and sevenths of the chords to *All The Things You Are* (Hammerstein and Kern), the melodic material is revealed, for the tune is derived from a compound melody consisting of a 7–3–7–3–etc. linear intervallic pattern (LIP) combined with a 3–7–3–7–etc. linear intervallic pattern (see Example 12 on the next page).<sup>18</sup>

Macro analysis reveals that circle progressions dominate *All The Things You Are*. The song contains twenty-five circle relationships (twenty-six, if one considers m. 30 a ii–V in C<sub>6</sub>). Consider m. 30 as an elaboration of the IV chord: D<sub>6</sub>maj<sup>7</sup> changes to D<sub>6</sub>m<sup>7</sup> (shown in Example 13, its seventh and third change from major to minor quality). The G<sub>6</sub><sup>7</sup> does not have a dominant function and is a further elaboration of the IV. The lowered seventh (C<sub>6</sub>) descends to the sixth (B<sub>6</sub>) thus creating a G<sub>6</sub><sup>7</sup> sonority.<sup>19</sup> One would expect retrogression to follow (i.e., IV to I), but iii is substituted for I.

16. Regarding linear analysis of jazz, see Steven Strunk's "Linear Intervallic Patterns In Jazz Repertory" from *Annual Review of Jazz Studies* 8 (1996): 63–115 and Steve Larson's "Schenkerian Analysis of Modern Jazz: Questions About Method" from *Music Theory Spectrum* 20 (2) (Autumn 1998): 209–241.

17. E.g., D<sub>6</sub>maj<sup>7</sup> (F and C) moves to G<sup>7</sup> (F and B) and modulates to C major. It consists of a  $\hat{4}$  common tone and a motion from  $\hat{8}$  to  $\hat{7}$ , which in turn shows that the Neapolitan-Dominant relationship is a substitution for the basic ii–V progression. A similar Neapolitan-Dominant substitution occurs in *Blue Bossa*.

18. Composer Jerome Kern "admittedly composed the complex melody for his own satisfaction, but he was certain the public would never hum it." Simon, William L. ed. *Reader's Digest Treasury of Best Loved Songs: 114 All-Time Family Favorites, Pleasure Programmed for Your Greater Entertainment*. Pleasantville, NY: The Reader's Digest Association (1972): 58.

19. The 6 in m. 30 of Example 13 is in relation to the IV in m. 29, showing that the G<sub>6</sub><sup>7</sup> is a result of voice leading, and that it functions as an elaboration of the IV.



relationship, as defined in Sommerville 2002, contains one or no common tones. In this case, there exists two: E and G $\sharp$  of the Emaj $^7$  chord also appear in the C $^{7(45)}$ . This progression clearly does not fall into the diatonic third or fully chromatic third (no common tones) categories. Because the jazz language involves the frequent use of seventh-chords and altered chords, the analyst may use definitions that apply to triadic language. In mm. 7–9, Cmaj $^7$  is followed by Cm $^7$ , shown with a horizontal line in Example 13. Diagonal lines illustrate root movement by second: mm. 15–17 and 19–21.<sup>21</sup>

*All The Things You Are* is structured in an atypical 36-bar form (32 is standard). When trading fours or eights, inexperienced performers too often forget about the extra four measures, and the form is destroyed.<sup>22</sup> If the performers in the ensemble hear and understand this harmonic extension, it should not be an issue. In m. 31, a iii chord is substituted for I. Macro analysis illustrates the progression from this iii chord to its resolution to I in m. 35.

The diagram shows a macro analysis of the harmonic progression in *All The Things You Are*, divided into five systems of measures. Each system shows chords above a staff line and Roman numerals below, with brackets and lines indicating relationships and root movements.

- System 1 (Measures 1-6):** Chords: F $_{MI}^7$ , B $^b_{MI}^7$ , E $^b7$ , A $^b_{MAT}^7$ , D $^b_{MAT}^7$ , G $^7$ , C $_{MAT}^7$ . Roman numerals: Ab: vi, ii, V, I, IV, V, I. A horizontal line connects C $_{MAT}^7$  to Cm $^7$  (labeled C: N).
- System 2 (Measures 7-12):** Chords: C $_{MI}^7$ , F $_{MI}^7$ , B $^b7$ , E $^b_{MAT}^7$ , A $^b_{MAT}^7$ , D $^7$ , G $_{MAT}^7$ . Roman numerals: Eb: vi, ii, V, I, IV, V, I. A horizontal line connects G $_{MAT}^7$  to G $^7$  (labeled G: N).
- System 3 (Measures 13-18):** Chords: A $_{MI}^7$ , D $^7$ , G $_{MAT}^7$ , F $^{\sharp}_{MI}^7$ , B $^7$ , E $_{MAT}^7$ , C $^{7(45)}$ . Roman numerals: ii, V, I, E: ii, V, I, Ab: V/vi<sub>chr</sub>. A diagonal line connects G $_{MAT}^7$  to F $^{\sharp}_{MI}^7$ .
- System 4 (Measures 19-24):** Chords: F $_{MI}^7$ , B $^b_{MI}^7$ , E $^b7$ , A $^b_{MAT}^7$ , D $^b_{MAT}^7$ , D $^b_{MI}^7$ , G $^b7$ . Roman numerals: vi, ii, V, I, IV $^{\flat}_3$ , V. A horizontal line connects D $^b_{MAT}^7$  to D $^b_{MI}^7$  (labeled Cb: ii V). A double bar line with a 6 is shown after D $^b_{MI}^7$ .
- System 5 (Measures 25-30):** Chords: C $_{MI}^7$ , B $^{\circ}7$  (sub for F $^7$ ), B $^b_{MI}^7$ , E $^b7$ , A $^b_{MAT}^7$ . Roman numerals: iii, V/ii, ii, V, I. A horizontal line connects C $_{MI}^7$  to A $^b_{MAT}^7$ .

Example 13. Macro Analysis of *All The Things You Are*.

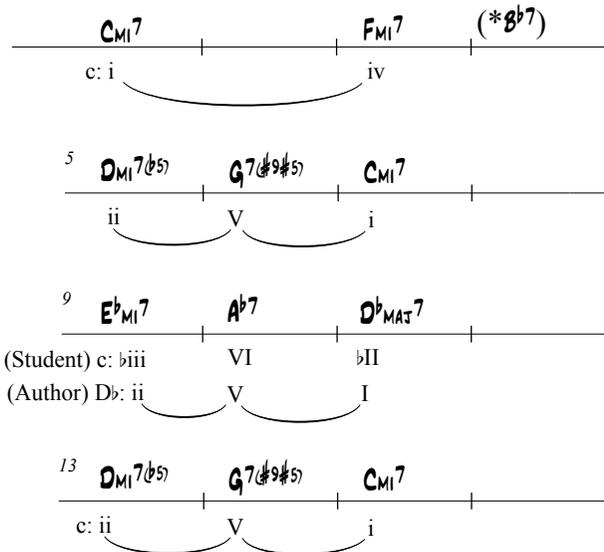
21. Milton Babbitt considers the G major tonal center to be an extended leading tone to the prevailing key area of A $\flat$  major. "All the Things They Are: Comments on Kern" in *The Collected Essays of Milton Babbitt*. Ed. by Stephen Peles. Princeton, NJ: Princeton University Press. (2003): 396.

22. Many times when trading, the drummer takes the second of each pair, and is responsible to play the extra four measures. The rest of the ensemble is also responsible not to come in early.

## Understanding the Modulation in *Blue Bossa*

During a rehearsal of a student jazz combo, I asked the bassist to analyze the harmonic progression of Kenny Dorham's *Blue Bossa* (Cm<sup>7</sup>-Fm<sup>7</sup>-Dm<sup>7</sup>(<sup>9</sup>5)-G(<sup>9</sup>5)-Cm<sup>7</sup>-E<sub>b</sub>m<sup>7</sup>-A<sub>b</sub><sup>7</sup>-D<sub>b</sub>maj<sup>7</sup>-Dm<sup>7</sup>(<sup>9</sup>5)-G(<sup>9</sup>5)-Cm<sup>7</sup>). The student labeled the chords as such: i-iv-ii-V-i-iii-VI-<sub>b</sub>II-ii-V-i. With the exception of the D<sub>b</sub>, which was labeled <sub>b</sub>II, the roots of the chords are diatonic to C minor. The E<sub>b</sub>m<sup>7</sup> confused the student, for a minor-minor seventh chord built on  $\hat{3}$  is not diatonic to the key of C minor. The student labeled it in lower case to show that it is minor and put a flat sign to show that the root is indeed E<sub>b</sub>.

The student's analysis is an example of the one-scale-fits-all approach where the performer expects all the chords to relate to the diatonic scale. It is also a case of the tunnel-vision improviser failing to see the function of the <sub>b</sub>iii chord. Once it was demonstrated to the student that the <sub>b</sub>iii-VI-<sub>b</sub>II progression was instead a ii-V-I progression in D<sub>b</sub>, the bass lines and improvisational lines greatly improved. It was, however, revealed to the student that the D<sub>b</sub> does indeed have a <sub>b</sub>II relationship to C minor. It was then explained how the third, fifth, and seventh of the D<sub>b</sub>maj<sup>7</sup> (F, A, and C) are the same as the third, fifth, and seventh of the following chord, Dm<sup>7</sup>(<sup>9</sup>5), and the ii-V-I in D<sub>b</sub> is merely an elaboration of the ii chord.



\*The Fm<sup>7</sup> B<sub>7</sub> variation is a ii-V in E<sub>b</sub>, but it functions as an elaboration of the iv.

Example 14. Macro Analysis of *Blue Bossa*.

## Learning a Jazz-Blues Progression

After teaching a basic blues progression (one that consists of only I, IV and V chords), introduce various turnarounds for greater harmonic interest. Here are a few suggestions (also in Example 15):

- In m. 4, tonicize the IV with a ii–V in the key of IV.
- In mm. 9–10, a rock-blues usually progresses from V to IV, but in jazz, a ii–V is more appropriate. One may precede the ii with a minor ii–V progression (i.e., a half-diminished chord followed by a dominant-seventh chord with an added flattened ninth or some other alteration). Notice the roots of mm. 8–10 are  $\hat{3}$ ,  $\hat{6}$ ,  $\hat{2}$  and  $\hat{5}$ , but the chord qualities do not suggest iii–vi–ii–V.
- A I–VI–ii–V turnaround (where VI is dominant, functioning as  $V^7/ii$ ) is typical for mm. 11–12.

Example 15. Blues in B-flat.

In mm. 7–8, the  $IV_{dom7}$  chord functions as a  $\flat II_{dom7}/iii$  (tritone substitute for  $V/iii$ ) with a resolution to  $ii^o/ii$  (substitute for  $iii$ ). The I preceding the  $IV_{dom7}$  moves through the circle progression, but it does not receive a slur. This is because the weak  $\frac{1}{2}$  inversion of the I conceals the feeling of tonic. It is feasible to argue that the  $I_{\frac{1}{2}}$  is actually a V chord, and therefore, the  $ct^{o7}$  in m. 6 functions as a  $vii^{o7}/V$ .

Introduce the *Parker Blues* (Charlie Parker's bebop-style blues) to the more-advanced student. Measures 2 through 4 are a circle progression leading to the IV chord. The chord qualities suggest that the circle progression begins with a minor ii–V–i progression in vi, which is iii in the key of IV. In m. 6, IV becomes a minor seventh chord, the ii of a ii–V progression in  $\flat III$ . However, m. 6 functions as an elaboration of the IV chord, so, in Example 16, voice leading symbols are drawn to show the change from major seventh to minor seventh quality ( $7-\flat$  and  $3-\flat$ ) and

the voice leading from E<sub>b</sub>m<sup>7</sup> to A<sub>b</sub><sup>7</sup> (7–6 and 5–4).<sup>23</sup> In m. 8, a ii–V in the key of  $\flat$ II functions as an elaborated Ger<sup>+6</sup> (or  $\flat$ II/V, the tritone substitute for V/V) that leads to a ii–V in the original key. In other words, the resolution of the  $\flat$ II/V in m. 8 to the V in m. 10 is delayed by ii in m.9.

By labeling Roman numerals and slurs, the student will recognize the chords as having harmonic direction and function, not just a series of unrelated harmonies.

The image shows three lines of musical notation for 'Parker Blues'. Each line consists of a staff with chords written above and Roman numerals below. Brackets and slurs are used to group related chords.

- Line 1:** Chords: B<sup>b</sup>MAT<sup>7</sup>, A<sub>M1</sub><sup>7</sup>(<sup>b5</sup>), D<sup>7</sup>(<sup>b9</sup>), G<sub>M1</sub><sup>7</sup>, C<sup>7</sup>, F<sub>M1</sub><sup>7</sup>, B<sup>b</sup><sup>7</sup>. Roman numerals: B $\flat$ : I, ii/vi, V/vi, vi, Eb: iii, V/ii, ii, V. Slurs connect B<sup>b</sup>MAT<sup>7</sup> to A<sub>M1</sub><sup>7</sup>(<sup>b5</sup>) and D<sup>7</sup>(<sup>b9</sup>), A<sub>M1</sub><sup>7</sup>(<sup>b5</sup>) to D<sup>7</sup>(<sup>b9</sup>) and G<sub>M1</sub><sup>7</sup>, G<sub>M1</sub><sup>7</sup> to C<sup>7</sup>, C<sup>7</sup> to F<sub>M1</sub><sup>7</sup>, and F<sub>M1</sub><sup>7</sup> to B<sup>b</sup><sup>7</sup>.
- Line 2:** Chords: E<sup>b</sup>MAT<sup>7</sup> (or dom<sup>7</sup>), E<sup>b</sup><sub>M1</sub><sup>7</sup>, A<sup>b</sup><sup>7</sup>, B<sup>b</sup>MAT<sup>7</sup>, D<sup>b</sup><sub>M1</sub><sup>7</sup>, G<sup>b</sup><sup>7</sup>. Roman numerals: B $\flat$ : IV<sup>7</sup>/<sub>3</sub>, I, (D $\flat$ : ii), V, (C $\flat$ : ii), V. Slurs connect E<sup>b</sup>MAT<sup>7</sup> to E<sup>b</sup><sub>M1</sub><sup>7</sup>, E<sup>b</sup><sub>M1</sub><sup>7</sup> to A<sup>b</sup><sup>7</sup>, A<sup>b</sup><sup>7</sup> to B<sup>b</sup>MAT<sup>7</sup>, B<sup>b</sup>MAT<sup>7</sup> to D<sup>b</sup><sub>M1</sub><sup>7</sup>, and D<sup>b</sup><sub>M1</sub><sup>7</sup> to G<sup>b</sup><sup>7</sup>. A bracket groups (D $\flat$ : ii) and V.
- Line 3:** Chords: C<sub>M1</sub><sup>7</sup>, F<sup>7</sup>, B<sup>b</sup>, G<sub>M1</sub><sup>7</sup>, C<sub>M1</sub><sup>7</sup>, F<sup>7</sup>. Roman numerals: ii, V, I, vi, ii, V. Slurs connect C<sub>M1</sub><sup>7</sup> to F<sup>7</sup>, F<sup>7</sup> to B<sup>b</sup>, B<sup>b</sup> to G<sub>M1</sub><sup>7</sup>, G<sub>M1</sub><sup>7</sup> to C<sub>M1</sub><sup>7</sup>, and C<sub>M1</sub><sup>7</sup> to F<sup>7</sup>.

Example 16. Parker Blues.

## Circle Progressions and Borrowed ii–V–I Progressions in *Have You Met Miss Jones?*

*Have You Met Miss Jones?* (Rodgers and Hart) is a fine example for teaching circle progressions because nearly every chord in the A sections is related by fifth. A substitution for the I chord in m. 5 serves to continue the circle progression from iii to I. The tune modulates to B $\flat$  (IV) with other ii–V–I patterns in keys a major third apart (D and G $\flat$ ), labeled with a bracket and *chr*.

23. The 6 and 4 (C and A $\flat$ , respectively), are labeled in Example 16 in relation to the functional bass, E $\flat$ , not to the A $\flat$  bass note. The A $\flat$ <sup>7</sup> chord is a result of the voice leading, and like in *All The Things You Are*, it is an elaboration of the IV chord.

**A**

**B**

**A**

Example 17. Harmonic Progression to  
*Have You Met Miss Jones?*

Labeling the thirds and sevenths along each slur in the bridge helps the student learn the harmonic progressions. Asking a student to improvise only on thirds and sevenths is an excellent exercise in hearing the harmony. The student will notice the common tones between the  $G_b$  maj<sup>7</sup> and the  $Gm^7$ , and the shift back to F major may not seem as distant.

A common substitution in the first ending is  $A_b m^9 - D_b^{13}$  (for the  $Gm^7$ ) and  $Gm^7 - C^7$  (for the  $C^7$ ). The  $A_b m^9 D_b^{13}$  functions as a ii-V substitute for  $D_b^7$ , the tritone substitute for V/V ( $G^7$ ), therefore, a slur should connect the  $Dm^7$  to the  $D_b^{13}$  to the  $C^7$ . A lower analytical line shows the local ii-V progressions (one in  $G_b$ , the other in F). This substitution works especially well because the melody is on  $\hat{4}$  ( $B_b$ ), which is the ninth of the  $A_b m^9$ , the thirteenth of the  $D_b^{13}$ , the third of the  $Gm^7$  and the seventh of the  $C^7$ .

**A**

**B**

Example 18. Substitution in the First Ending of  
*Have You Met Miss Jones?*

## So, You Want to Play *Giant Steps*?

Students ask to play John Coltrane's *Giant Steps*, perhaps, because of the song's reputation for being quite difficult, hence, impressive to their peers. For the tunnel-vision improviser, the chord changes move too quickly.<sup>24</sup> Realizing each chord and applying its corresponding scale within less than a second can be very demanding. Each measure in *Giant Steps* typically lasts less than a second, and half of the measures consist of two chords each. Labeling Roman numerals and slurs reveals only three key centers: B, G, and E $\flat$  (all a major third apart). The one-scale-fits-all improviser must pay attention to the shifts in key, but with proper analysis, will soon find the tune easy, for the local harmonic progressions are not demanding: V–I or ii–V–I. The tune is limited to only three keys, so the student should concentrate on learning ii–V–I progressions in only B, G, and E $\flat$ .

Because the tempo of *Have You Met Miss Jones?* is significantly slower than *Giant Steps*, a good introduction to teaching *Giant Steps* is to have the student practice the bridge of *Have You Met Miss Jones?* at a medium tempo.

1. Improvise over the bridge to *Have You Met Miss Jones?*:  
B $\flat$ : ii–V–I   G $\flat$ : ii–V–I   D: ii–V–I   G $\flat$ : ii–V–I
2. Repeat, but transposed up a half-step:  
B: ii–V–I   G: ii–V–I   E $\flat$ : ii–V–I   G: ii–V–I
3. Reorder the ii–V–I progressions as follows, and improvise:  
E $\flat$ : ii–V–I   G: ii–V–I   B: ii–V–I   E $\flat$ : ii–V–I
4. Increase the tempo, and the student will recognize mm. 8–15 of *Giant Steps*.

$\overset{\text{B}_{\text{MAY}}^7}{\text{B: I}} \quad \text{D}^7 \quad \overset{\text{G}_{\text{MAY}}^7}{\text{I}} \quad \overset{\text{B}^{\flat 7}}{\text{E}^{\flat}: \text{V}} \quad \overset{\text{E}^{\flat} \text{MAY}^7}{\text{I}} \quad \overset{\text{A}_{\text{MI}}^7}{\text{G: ii}} \quad \text{D}^7 \quad \text{V}$

$\overset{5}{\text{G}_{\text{MAY}}^7} \quad \text{I} \quad \text{E}^{\flat}: \text{V} \quad \overset{\text{B}^{\flat 7}}{\text{E}^{\flat} \text{MAY}^7} \quad \text{I} \quad \text{B: V} \quad \overset{\text{F}^{\# 7}}{\text{B}_{\text{MAY}}^7} \quad \text{I} \quad \overset{\text{F}_{\text{MI}}^7}{\text{E}^{\flat}: \text{ii}} \quad \text{B}^{\flat 7} \quad \text{V}$

**Example 19. Harmonic Progression of *Giant Steps*.<sup>25</sup>**

24. Although the harmonic rhythm of *Giant Steps* is typical of many jazz tunes of its time (i.e., one or two chords per measure), it is usually performed at a fast tempo.

25. A harmonic analysis of *Giant Steps* appears on pages 181 and 187 in Bruce Benward and Joan Wildman's *Jazz Improvisation in Theory and Practice*. Dubuque, IA: Wm. C. Brown Publishers (1984).

9  $E^b_{MAJ7}$  |  $A_{MI7}$   $D7$  |  $G_{MAJ7}$  |  $C^{\#}_{MI7}$   $F^{\#7}$  |  
 I G: ii V I B: ii V

13  $B_{MAJ7}$  |  $F_{MI7}$   $B^b7$  |  $E^b_{MAJ7}$  |  $C^{\#}_{MI7}$   $F^{\#7}$  |  
 I Eb: ii V I B: ii V

Example 19. Harmonic Progression of *Giant Steps*, continued.

## Rhythm Changes

Because so many jazz tunes are based on the changes to Gershwin's *I Got Rhythm*, it is essential in jazz education to teach the 32-bar progression known as rhythm changes. Macro analysis explains the function of certain chords. For example, V is slurred to the iii because the iii is a substitute for the I.

**A**

I vi ii V iii vi ii V

5

I V7/IV IV iv iii vi ii V ii V I

**B**

17 (V7/VI) (V7/II)

III dom7 VI dom7

21 (V7/V)

II dom7 V

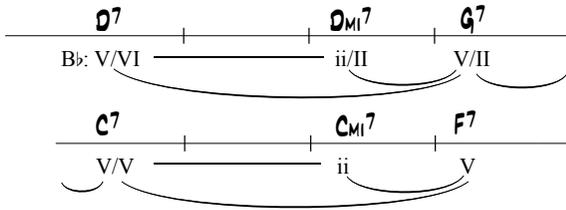
(last "A" section)  
25-32

I, vi, etc.

\*It is a circle progression when iii substituted for I in m.1.

Example 20. Harmonic Progression of Rhythm Changes.

It is also important that the student be familiar with common variations to the progression,<sup>26</sup> such as in m. 1: the vi can be  $V^7/ii$ ,  $V_5^6/ii$ ,  $vii^{07}/ii$ , or  $\text{bIII}^{dom}7$ . In m. 6, the IV can be followed by a  $\sharp IV^{07}$ . Turnarounds at the ends of each A section may be varied. In the bridge, any dominant chord may be substituted with a  $ii-V$ ; two substitutions are shown in Example 21.



Example 21. Sample Substitutions in the Bridge to Rhythm Changes.

## What is a SUS Chord?

The student may have previously encountered sus chords in common practice harmony (e.g., the  $V^{4-3}$  or  $V_{4-3}^7$  suspension figures). Macro analysis allows the student to give the appropriate letter name for a chord containing a suspension. For example, in the key of G, label chords with suspension figures as shown in Example 22.  $Dsus$  contains the pitches D, G and A, so it could be mistaken for a  $Gsus_2$  chord if taken out of context.

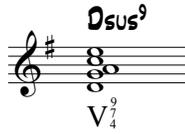


Example 22.  $Vsus$  and  $Vsus^7$  in G Major.

In jazz, many times the ninth is added to a  $sus^7$  chord (see Example 23). One could analyze  $Dsus^9$  as  $Am^7/D$  or  $\frac{ii^7}{V_{bass}}$  as shown in Example 24c.<sup>27</sup> Sometimes the thirteenth is added:  $Dsus^{13}$  or  $Am^9/D$  or  $\frac{ii^9}{V_{bass}}$ .

26. For a macro-analytical-derived comparison of two improvised solos that employ several chord substitutions of the basic rhythm changes (from a 1963 recording of Thelonious Monk's *Rhythm-A-Ning*), see Robert Hodson, *Interaction, Improvisation, and Interplay in Jazz*. New York: Routledge (2007): 66–74.

27. In the same measure of a work by Chopin, Carmody analyzes the harmony as  $Fsus^9$  (labeled m. 17), and Stark calls the chord  $Cm^7/F$  (labeled m. 18). Carmody, Bill. "Mazurka, Op. 67, No. 2 by Chopin" in *Musical Insights 1* (1997): 71. Stark, Charles John. "Insights for Teaching: Mazurka, Op. 67, No. 2 by Chopin" in *Musical Insights 1* (1997): 76.

Example 23.  $V_{4^9}$  in G Major.

Example 24.  $V_{sus^9}$  as a Superimposed ii-V Progression in G Major.

To teach improvisation over a sus chord, explain that a sus chord is simply a ii chord over the V bass note, i.e. a superimposed ii-V progression. In Example 24b, the sus chord is shown as a ii chord with an anticipation of the V bass note. Example 25 includes a sus chord that functions as both ii and V, having come from vi. Some pieces, such as Herbie Hancock's *Maiden Voyage*, use sus chords as a particular sonority and not functioning as a dominant. It may not be appropriate to apply slurs in such cases.

Example 25. Macro Analysis of a Progression Containing a SUS Chord.

## A Final Note

The terms *jazz harmony* or *jazz education* are as generic as *classical music* or *classical harmony*. Educators, scholars, performers and critics must keep in mind that not all concert music is from the common practice period, and similarly not all jazz fits into the harmonic practices of bebop. Common practice harmony is taught as a basis for analysis, i.e. tools used to better understand music that is more complex. The ii–V–I progressions are important to jazz education in order to achieve a better understanding of its musical language. Although working jazz musicians continue to play original compositions, standards and bebop tunes that use these harmonic principles, other styles of jazz with significantly different harmonic behavior (e.g., modal jazz) have had a significant impact on jazz in the last fifty years.