

## Lesson III – Auxiliary Sonorities

### Introduction:

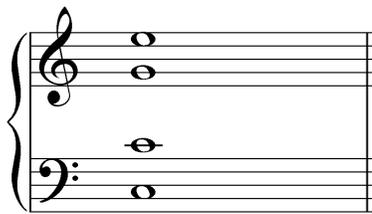
Techniques of harmonic expansion are among the most important to the tonal repertoire. By expanding harmonies over time, composers are able to build and sustain musical tension, and to expand musical works to large dimensions. We have already learned about melodic embellishment as a means of decorating individual tones. These techniques can be broadened, through combination with basic interval progressions, to embrace entire harmonies.

In this lesson you will apply your knowledge of basic interval progressions to expand a single harmony. We will begin by expanding a chord in root position with a *neighboring* auxiliary sonority. From there we will expand a harmony as it changes from root position to first inversion through a *passing* auxiliary sonority. In each case, the chord undergoing expansion will be called a *reference* sonority.

### Neighboring auxiliary sonorities:

Let us begin by considering the expansion of a single triad:

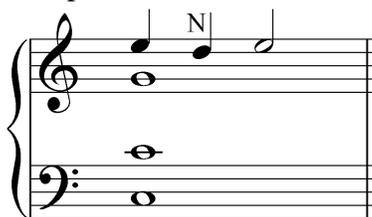
Example 1:



I

In this example, a root-position tonic triad will serve as the reference sonority. This soprano may be decorated through a simple melodic embellishment, a lower neighbor tone (N):

Example 2:



I \_\_\_\_\_

This neighbor note in the soprano can be accompanied in the bass, creating parallel thirds between the outer voices.

Example 3:

The above example may be left alone as a simple expansion of tonic harmony, with melodic embellishments in the outer voices. However, we can take the embellishments a step further. In the following example, the tenor is given an upper neighbor while the alto sustains a G:

Example 4:

Here we have the tenor moving away from C to its neighbor note, D, so that it is consonant with the neighbor notes in the soprano and bass. Both of the inner voices form valid interval progressions: the alto creates a “6 - 5 - 6” with the soprano and a “5 - 6 - 5” with the bass, while the tenor forms a “3 - 1 - 3” with the soprano and a “1 - 3 - 1” with the bass. We will refer to such four-part expansions as *auxiliary sonorities*. Coincidentally, the multiple neighbor notes in this auxiliary sonority produce the pitches of a first-inversion V chord.

A perfect fourth appears between the tenor and alto on the second beat. This fourth is a resultant interval and does not present a problem:

- because it is not formed with the bass and, additionally
- because the auxiliary (neighboring) sonority is merely transitory, subordinate to the tonic undergoing expansion.

Popup Box: You may have noticed that the pitches in the above auxiliary sonority form a valid triad on their own. The G, B, and two Ds of the auxiliary sonority constitute a  $V^6$  chord. However, this sonority comes about through neighbor-note motions. Although the notes of a  $V^6$  are undeniably present, the melodic origin of the sonority signals its subordinate function as a neighboring sonority tied to the tonic chord from which it arises. In order to indicate that subordinate function, the progression is labeled “I\_\_\_\_\_” or “I ( $V^6$ ) I” to emphasize the expansionary process.

This type of expansion occurs frequently in tonal music. The following examples show excerpts from four-part chorales by J.S. Bach:

Example 5 (J.S. Bach, “Wie nach einer Wasserquelle,” BWV 32.6, m. 1):

I (V<sup>6</sup>) I

Example 6 (J.S. Bach, “Ach wie nichtig, ach wie flüchtig,” BWV 26.6, m. 1):

i (V<sup>6</sup>) i

Both of these examples show the expansion of the opening tonic triad with an auxiliary sonority. In each case, the bass is embellished with a lower neighbor tone while one of the upper voices is held and the other two are decorated with passing tones.

#### Activity 9.1:

In this activity you will complete an expansion of a tonic triad by providing the pitches of an auxiliary sonority whose bass is a lower neighbor tone. For now, use only passing, neighbor, and sustained tones and aim for smooth voice leading.

#### Exercise 9.1a:

Complete the following expansion of the D-major reference sonority with an auxiliary sonority whose bass is a lower neighbor tone. What pitch should appear in the bass?

I (V<sup>6</sup>) I

[Answer: C#. Response if correct: “Correct!” Response if incorrect: “Incorrect. Remember, the bass of the auxiliary sonority should be the same as the bass of a V<sup>6</sup> chord in D major. Try again.”]

[Follow-up question:

Now fill in the three upper voices.



[Answer: . Response if correct: “Correct!” Response if partially correct (one or two of S/A/T is incorrect): “That is partially correct, but your [S/A/T] needs adjusting. Remember to use only sustained, neighbor, and passing tones in the upper voices. Try again.” Response if entirely incorrect: “None of your voices are correct. Remember to use only sustained, neighbor, and passing tones in the upper voices and try again.”]

#### Exercise 9.1b:

Complete the following expansion of the F-major reference sonority with an auxiliary sonority whose bass is a lower neighbor tone. What pitch should appear in the bass?

[Answer: E. Response if correct: “Correct!” Response if incorrect: “Incorrect. Remember, the bass of the auxiliary sonority should be the same as the bass of a  $V^6$  chord in F major. Try again.”]

#### [Follow-up question:

Now fill in the three upper voices.

[Answer: . Response if correct: “Correct!” Response if partially correct (one or two of S/A/T is incorrect): “That is partially correct, but your [S/A/T] needs adjusting. Remember to use only sustained, neighbor, and passing tones in the upper voices. Try again.” Response if entirely incorrect: “None of your voices are correct. Remember to use only sustained, neighbor, and passing tones in the upper voices and try again.”]

#### Exercise 9.1c:

Complete the following expansion of the G-major reference sonority with an auxiliary sonority whose bass is a lower neighbor tone. What pitch should appear in the bass?

[Answer: F. Response if correct: "Correct!" Response if incorrect: "Incorrect. Remember, the bass of the auxiliary sonority should be the same as the bass of a  $V^6$  chord in G major. Try again."]

[Follow-up question:

Now fill in the three upper voices.

[Answer: . Response if correct: "Correct!" Response if partially correct (one or two of S/A/T is incorrect): "That is partially correct, but your [S/A/T] needs adjusting. Remember to use only sustained, neighbor, and passing tones in the upper voices. Try again." Response if entirely incorrect: "None of your voices are correct. Remember to use only sustained, neighbor, and passing tones in the upper voices and try again."]

Exercise 9.1d:

Complete the following expansion of the  $B^b$ -major reference sonority with an auxiliary sonority whose bass is a lower neighbor tone. What pitch should appear in the bass?

[Answer: A. Response if correct: "Correct!" Response if incorrect: "Incorrect. Remember, the bass of the auxiliary sonority should be the same as the bass of a  $V^6$  chord in  $B^b$  major. Try again."]

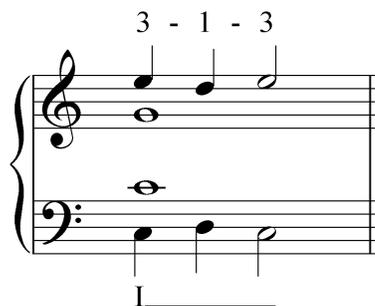
[Follow-up question:

Now fill in the three upper voices.

[Answer: . Response if correct: "Correct!" Response if partially correct (one or two of S/A/T is incorrect): "That is partially correct, but your [S/A/T] needs adjusting. Remember to use only sustained, neighbor, and passing tones in the upper voices. Try again." Response if entirely incorrect: "None of your voices are correct. Remember to use only sustained, neighbor, and passing tones in the upper voices and try again."]

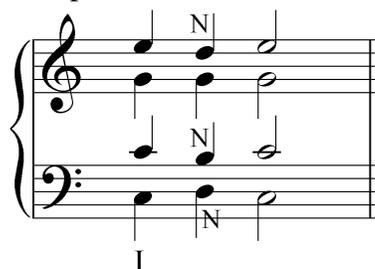
The above examples are by no means the only way to expand a chord. What if, for example, the bass were given an upper neighbor? The outer voices would form a "3 - 1 - 3" progression:

Example 7:



This expansion may be “filled out” in the same manner as above. Note that the tenor embellishment has been changed to a lower neighbor in order to avoid parallel octaves with the bass:

Example 8:



Here we have an interesting situation. In Lesson AAA, it was stated that perfect fourths are considered dissonant in two-voice textures. That rule was qualified to permit perfect fourths as resultant intervals for voice pairs not involving the bass. In this example, we see that the alto forms a perfect fourth with the bass. This type of situation requires a further qualification of the perfect-fourth rule.

Perfect fourths may occur with the bass when part of an auxiliary sonority associated with a reference sonority. In Example 8, the perfect fourth between the alto and the bass occurs during the expansion of a tonic triad in a sonority that coincidentally produces the pitches of a  $V_4^6$  chord.

Popup Box: Perfect fourths are considered dissonant and must be treated as such. They are not permitted in two-voice textures. In textures with more than two voices, perfect fourths are permitted as resultant intervals between voice pairs not involving the bass. Perfect fourths may occur with the bass in an auxiliary sonority, such as a passing  $\frac{6}{4}$  chord.

A similar type of neighboring auxiliary sonority occurs when the bass is held. Consider the following example where the soprano of the same reference chord is given an upper neighbor note.

Example 9:





## Exercise 9.2a:

Complete the following expansion of the B-minor reference sonority with an auxiliary sonority that sustains the bass of the reference sonority. Fill in the upper voices:

i (iv<sup>6</sup>) i

[Answer: . Response if correct: “Correct!” Response if partially correct (one or two of S/A/T is incorrect): “That is partially correct, but your [S/A/T] needs adjusting. Remember to use only sustained, neighbor, and passing tones in the upper voices. Try again.” Response if entirely incorrect: “None of your voices are correct. Remember to use only sustained, neighbor, and passing tones in the upper voices and try again.”]

## Exercise 9.2b:

Complete the following expansion of the A-major reference sonority with an auxiliary sonority that sustains the bass of the reference sonority. Fill in the upper voices:

I (IV<sup>6</sup>) I

[Answer: . Response if correct: “Correct!” Response if partially correct (one or two of S/A/T is incorrect): “That is partially correct, but your [S/A/T] needs adjusting. Remember to use only sustained, neighbor, and passing tones in the upper voices. Try again.” Response if entirely incorrect: “None of your voices are correct. Remember to use only sustained, neighbor, and passing tones in the upper voices and try again.”]

## Exercise 9.2c:

Complete the following expansion of the G-minor reference sonority with an auxiliary sonority that sustains the bass of the reference sonority. Fill in the upper voices:

i ( iv<sup>4</sup> ) i

[Answer: . Response if correct: “Correct!” Response if partially correct (one or two of S/A/T is incorrect): “That is partially correct, but your [S/A/T] needs adjusting. Remember to use only sustained, neighbor, and passing tones in the upper voices. Try again.” Response if entirely incorrect: “None of your voices are correct. Remember to use only sustained, neighbor, and passing tones in the upper voices and try again.”]

#### Exercise 9.2d:

Complete the following expansion of the E<sup>b</sup>-major reference sonority with an auxiliary sonority that sustains the bass of the reference sonority. Fill in the upper voices:

I ( IV<sup>4</sup> ) I

[Answer: . Response if correct: “Correct!” Response if partially correct (one or two of S/A/T is incorrect): “That is partially correct, but your [S/A/T] needs adjusting. Remember to use only sustained, neighbor, and passing tones in the upper voices. Try again.” Response if entirely incorrect: “None of your voices are correct. Remember to use only sustained, neighbor, and passing tones in the upper voices and try again.”]

#### Passing auxiliary sonorities:

Expansions with auxiliary sonorities are not limited to neighboring sonorities. Consider the following example of the common I - I<sup>6</sup> progression:

Example 13:

Musical notation for Example 13. It shows two measures of music. The first measure is labeled 'I' and the second is labeled 'I<sup>6</sup>'. The soprano voice moves from E to C, and the bass voice moves from C to E. The inner voices (alto and tenor) remain stationary, forming a dyad of G and B.

What do you notice about the outer voices? The soprano moves from E to C, while the bass does the opposite, moving from C to E. The outer voices participate in a voice exchange, creating a “10 - 6” interval progression:

Example 14:

Musical notation for Example 14. It shows two measures of music. The first measure is labeled 'I' and the second is labeled 'I<sup>6</sup>'. Above the first measure is the number '10' and above the second is '6', with a hyphen between them. The soprano voice moves from E to C, and the bass voice moves from C to E. The inner voices (alto and tenor) remain stationary, forming a dyad of G and B.

Very frequently, skips in the outer voices are filled in with passing tones. These pitches are not consonant with the reference sonority (the I chord, in this case). They are understood as melodic embellishments of the outer voices:

Example 15:

Musical notation for Example 15. It shows two measures of music. The first measure is labeled 'I' and the second is labeled 'I<sup>6</sup>'. Above the first measure is the number '10', above the second is '8', and above the third is '6', with hyphens between them. The soprano voice moves from E to D to C, and the bass voice moves from C to D to E. The inner voices (alto and tenor) remain stationary, forming a dyad of G and B.

In the above example, the outer voices form a “10 - 8 - 6” progression. Just as before, we may enhance this expansion by embellishing the inner voices so that they harmonize the passing Ds:

Example 16:

Musical notation for Example 16. It shows two measures of music. The first measure is labeled 'I' and the second is labeled 'I<sup>6</sup>'. Above the first measure is the number '10' and above the second is 'vii<sup>o6</sup>', with a hyphen between them. The soprano voice moves from E to D to C, and the bass voice moves from C to D to E. The inner voices (alto and tenor) move from G and B to F and A to G and B.

In this case, the sonority resulting from the multiple embellishments coincidentally produces the pitches of a  $\text{vii}^{\circ 6}$  chord. In Lesson FFF, we discussed the special case of this diminished triad. The triad built on the seventh scale degree of the major scale will have a diminished fifth between the root and fifth. This highly dissonant interval is permitted only when treated in specific ways. By presenting the  $\text{vii}^{\circ}$  chord in first inversion, all upper voices are consonant with the bass and the dissonant tritone is hidden in the inner voices. In Example 16, the diminished fifth appears between the tenor B and the alto F. The tritone is properly resolved here as both inner voices ascend by step to form a perfect fifth, the tenor creating the basic interval progression “6 - 6” with the bass, and the alto “10 - 10” with the bass, as illustrated in Lesson FFF on the  $\text{vii}^{\circ 6}$  chord.

### Activity 9.3:

In this activity you will expand a tonic reference sonority first by creating a voice exchange between the bass and one of the upper voices and then by including an auxiliary  $\text{vii}^{\circ 6}$  chord.

#### Exercise 9.3a:

Expand the tonic chord on beat one to beat two by creating a voice exchange between the bass and the soprano while sustaining the other two voices:

I

 $\text{I}^6$ 

I

 $\text{I}^6$ 

[Answer: I  $\text{I}^6$ . Response if correct: “Correct!” Response if incorrect: “Incorrect. Try again.”]

[Follow-up question:]

Now embellish the expansion by incorporating an auxiliary  $\text{vii}^{\circ 6}$  chord. What pitch should appear in the bass?

I ( $\text{vii}^{\circ 6}$ ) I

[Answer: D. Response if correct: “Correct!” Response if incorrect: “Incorrect. Remember, the bass of the auxiliary sonority should be the same as the bass of a  $\text{vii}^{\circ 6}$  chord in C major. Try again.”]

[Follow-up question:]

Now fill in the three upper voices.

A musical score in 4/4 time, key of B major. The bass line starts with a whole note chord (B2, D3, F#3) and then moves to a whole note chord (B2, D3, G#3). The tenor line starts with a whole note chord (B2, D3, F#3) and then moves to a whole note chord (B2, D3, G#3). The soprano and alto lines are not shown.

[Answer: . Response if correct: “Correct!” Response if partially correct (one or two of S/A/T is incorrect): “That is partially correct, but your [S/A/T] needs adjusting. Remember to use passing tones in the voices participating in the voice exchange and lower neighbors in the remaining voices. Try again.” Response if entirely incorrect: “None of your voices are correct. Remember to use passing tones in the voices participating in the voice exchange and lower neighbors in the remaining voices. Try again.”]

### Exercise 9.3b:

Expand the tonic chord on beat one to beat two by creating a voice exchange between the bass and the tenor while sustaining the other two voices:

A musical score in 4/4 time, key of B major. The bass line starts with a whole note chord (B2, D3, F#3) and then moves to a whole note chord (B2, D3, G#3). The tenor line starts with a whole note chord (B2, D3, F#3) and then moves to a whole note chord (B2, D3, G#3). The soprano and alto lines are not shown.

i i<sup>6</sup>

A musical score in 4/4 time, key of B major. The bass line starts with a whole note chord (B2, D3, F#3) and then moves to a whole note chord (B2, D3, G#3). The tenor line starts with a whole note chord (B2, D3, F#3) and then moves to a whole note chord (B2, D3, G#3). The soprano and alto lines are not shown.

i i<sup>6</sup>

[Answer: . Response if correct: “Correct!” Response if incorrect: “Incorrect. Try again.”]

[Follow-up question:]

Now embellish the expansion by incorporating an auxiliary vii<sup>o6</sup> chord. What pitch should appear in the bass?

A musical score in 4/4 time, key of B major. The bass line starts with a whole note chord (B2, D3, F#3) and then moves to a whole note chord (B2, D3, G#3). The tenor line starts with a whole note chord (B2, D3, F#3) and then moves to a whole note chord (B2, D3, G#3). The soprano and alto lines are not shown.

i (vii<sup>o6</sup>) i

[Answer: C<sup>#</sup>. Response if correct: “Correct!” Response if incorrect: “Incorrect. Remember, the bass of the auxiliary sonority should be the same as the bass of a vii<sup>o6</sup> chord in B minor. Try again.”]

[Follow-up question:]

Now fill in the three upper voices.

[Answer: . Response if correct: “Correct!” Response if partially correct (one or two of S/A/T is incorrect): “That is partially correct, but your [S/A/T] needs adjusting. Remember to use passing tones in the voices participating in the voice exchange and lower neighbors in the remaining voices. (Don’t forget to raise the leading tone!) Try again.” Response if entirely incorrect: “None of your voices are correct. Remember to use passing tones in the voices participating in the voice exchange and lower neighbors in the remaining voices. (Don’t forget to raise the leading tone!) Try again.”]

### Exercise 9.3c:

Expand the tonic chord on beat one to beat two by creating a voice exchange between the bass and the soprano while sustaining the other two voices:

I<sup>6</sup> I

I<sup>6</sup> I

[Answer: . Response if correct: “Correct!” Response if incorrect: “Incorrect. Try again.”]

[Follow-up question:]

Now embellish the expansion by incorporating an auxiliary vii<sup>o6</sup> chord. What pitch should appear in the bass?

I<sup>6</sup> (vii<sup>o6</sup>) I

[Answer: B. Response if correct: “Correct!” Response if incorrect: “Incorrect. Remember, the bass of the auxiliary sonority should be the same as the bass of a vii<sup>o6</sup> chord in A major. Try again.”]

[Follow-up question:]

Now fill in the three upper voices.

[Answer: . Response if correct: “Correct!” Response if partially correct (one or two of S/A/T is incorrect): “That is partially correct, but your [S/A/T] needs adjusting. Remember to use passing tones in the voices participating in the voice exchange and lower neighbors in the remaining voices. Try again.” Response if entirely incorrect: “None of your voices are correct. Remember to use passing tones in the voices participating in the voice exchange and lower neighbors in the remaining voices. Try again.”]

### Exercise 9.3d:

Expand the tonic chord on beat one to beat two by creating a voice exchange between the bass and the alto while sustaining the other two voices:

$i^6$   $i$

[Answer:  $i^6$   $i$  . Response if correct: “Correct!” Response if incorrect: “Incorrect. Try again.”]

[Follow-up question:]

Now embellish the expansion by incorporating an auxiliary  $vii^{06}$  chord. What pitch should appear in the bass?



$i$  ( $vii^{06}$ )  $i$

[Answer:  $F^\#$ . Response if correct: “Correct!” Response if incorrect: “Incorrect. Remember, the bass of the auxiliary sonority should be the same as the bass of a  $vii^{06}$  chord in E minor. Try again.”]

[Follow-up question:]

Now fill in the three upper voices.

[Answer: . Response if correct: “Correct!” Response if partially correct (one or two of S/A/T is incorrect): “That is partially correct, but your [S/A/T] needs adjusting. Remember to use passing tones in the voices participating in the voice exchange and lower neighbors in the remaining voices. (Don’t forget to raise the leading tone!) Try again.” Response if entirely incorrect: “None of your voices are correct. Remember to use passing tones in the voices participating in the voice exchange and lower neighbors in the remaining voices. (Don’t forget to raise the leading tone!) Try again.”]

This type of expansion, like the neighboring auxiliary sonorities outlined above, occurs frequently in tonal music. The following examples show excerpts from four-part chorales by J.S. Bach:

Example 17 (J.S. Bach, “Ach Gott, vom Himmel sieh' darein,” BWV 153.1, m. 1):

i (vii<sup>6</sup>) i<sup>6</sup>

Example 18 (J.S. Bach, “Vater unser im Himmelreich,” BWV 416, m. 1):

10 10 10

i (vii<sup>6</sup>) i<sup>6</sup>

Example 19 (reduction of J.S. Bach, “Aus meines Herzens Grunde,” BWV 269, m. 9):

10 10 10

I<sup>6</sup> (vii<sup>6</sup>) I

Examples 17-19 each show the expansion of the reference tonic triad with a passing auxiliary harmony coincidentally producing the pitches of a  $\text{vii}^{\text{06}}$  chord. In each case, the bass moves stepwise through a third while the upper voices follow suit or decorate a single pitch with an upper neighbor tone. (The tenor voice on the fourth beat of Example 18 leaps up to a D because the G on the third beat is heard to resolve to the F in the bass.) Some common voice-leading patterns are worth highlighting. In Example 17 the outer voices participate in a voice exchange while in Example 18, the outer voices move in parallel tenths. Example 19 has both of these common patterns occurring simultaneously.

### “Root position” auxiliary sonorities:

The auxiliary sonorities we have examined so far have been inverted triads. However, root-position triads may also serve as auxiliary sonorities to other root-position triads, or even to first-inversion triads. Consider the following excerpt from a four-part chorale by J.S. Bach (Example 21 shows a simplified reduction of Example 20):

Example 20 (J.S. Bach, “Nun danket alle Gott,” BWV 252, m. 1):

The musical score for Example 20 shows a four-part chorale in D major, C major, and D major. The bass line moves from D (I) to F# (IV) to D (I). The upper voices follow suit, with the soprano and tenor voices moving in parallel tenths and the alto and bass voices moving in parallel thirds.

Example 21 (reduction of J.S. Bach, “Nun danket alle Gott,” BWV 252, m. 1):

The simplified reduction of Example 20 shows the root position triads I, IV, and I in the bass line. The upper voices are reduced to single notes, showing the voice leading from D to F# to D.

The auxiliary sonority in Examples 20 and 21 is similar to the one in Example 11. In this case, however, the root of the IV chord (D) is in the bass. As you can see, the leaps down to D and then back up to A are more disjunct than the voice leading in the bass of Example 11. Nevertheless, the auxiliary function of the IV is clear from the surrounding reference sonority and the embellishing neighbor-note patterns in both the soprano and tenor voices. The following excerpt shows a similar situation:

Example 22 (J.S. Bach, “Ermuntre dich, mein schwacher Geist,” BWV 43.11, m. 5):

I    (IV)    I

Like Example 20, Example 22 shows an expansion of a tonic harmony, as reference sonority, with a root-position auxiliary sonority on a strong beat. In this case, both leaps in the bass are descending and the alto line skips down from the root of the I chord to the upper neighbor E. Despite these minor alterations, the nature of the auxiliary sonority remains the same.

Similarly, a root-position dominant chord may serve as an auxiliary sonority to a surrounding tonic as reference sonority. Example 23 shows a tonic harmony being expanded with a root-position auxiliary dominant chord (Example 24 provides a reduction):

Example 23 (J.S. Bach, “Nun danket alle Gott,” BWV 252, m. 3):

I    (V)    I

Example 24 (reduction of J.S. Bach, “Nun danket alle Gott,” BWV 252, m. 3):

I    (V)    I

As in Example 21, note here the neighbor-note patterns, this time in the soprano and alto voices. It is important to remember that auxiliary sonorities serve a different purpose than the functional harmonies made up of the same pitches. In Examples 23 and 24, for instance, the auxiliary sonority does not act as a functional V chord; instead, it expands the tonic harmony. This particular pattern of root position sonorities commonly appears at the end of a piece, where tonic is strongly reinforced. In codas, for instance, after the cadential I chord has arrived, we encounter such expanded reinforcements of tonic harmony. In such concluding passages, where the music routinely alternates between tonic and dominant chords, the tonics are clearly primary, the dominants secondary. They are auxiliary sonorities used to expand the referential tonic.

Activity 9.4:



ii    (I<sup>6</sup>)    ii<sup>6</sup>

Here, an auxiliary sonority coincidentally containing the pitches of a I<sup>6</sup> chord is used to expand a ii chord. Likewise, the model may be used to expand a dominant chord:

Example 28 (J.S. Bach, “Nun bitten wir den heiligen Geist,” BWV 385, mm. 3-4):

I    V<sup>6</sup> (IV<sup>6</sup>)    V<sup>6</sup>    I

In Example 28, m. 3 is all tonic: beat 1 is a tonic chord that concludes the first phrase of the chorale and beat 4 continues that tonic. M. 4 begins with a V<sup>6</sup> on beat 1. The second beat of m. 4 is a neighboring auxiliary IV<sup>6</sup> which leads right back to V<sup>6</sup>, which in turn resolves to tonic.

Popup Box: The motion from V to the auxiliary sonority IV<sup>6</sup> in Example 28 resembles what some texts refer to as a “retrogression” implying that the dominant harmony has regressed to a pre-dominant harmony. It is important to realize that this is not the case here. The D-major chord in Example 28 is nothing more than an auxiliary sonority expanding the reference V chord. The V chord is prolonged throughout the example; the auxiliary IV<sup>6</sup> chord is merely a coincidence of non-harmonic tones.

Similarly, an auxiliary V chord can be used to expand a reference IV chord. Consider the following example (Example 30 provides a reduction):

Example 29 (J.S. Bach, “Jesu, deine tiefen Wunden,” BWV 194.6, mm. 7-8):

IV    (V)    IV<sup>6</sup>

Example 30 (reduction of J.S. Bach, “Jesu, deine tiefen Wunden,” BWV 194.6, mm. 7-8):

IV (V) IV<sup>6</sup>

In this example, the sonority on the last beat of m. 7 is not a functional dominant harmony. As Example 30 clearly shows, each member of this chord is the result of passing motion as IV is prolonged and becomes IV<sup>6</sup> through a voice exchange in the outer voices. All three chords are part of a single predominant area.

Root-position auxiliary sonorities may also be used to expand harmonies other than the tonic. In the following example, V is the reference harmony. It is expanded by a tonic.

Example 31 (J.S. Bach, “Nun danket alle Gott,” BWV 252, mm. 5-6):

Example 32 (reduction of J.S. Bach, “Nun danket alle Gott,” BWV 252, mm. 5-6):

Examples 32 may, at first glance, seem similar to Example 24. Both passages seem to consist of alternating I and V chords in root position. In this case, however, V is the reference sonority and I is the auxiliary. The following example shows another possibility for expanding a V chord. In this case a root-position vi chord serves as the auxiliary sonority:

Example 33 (J.S. Bach, “Ermuntre dich, mein schwacher Geist,” BWV 43.11, m. 7):

Musical notation for Example 33. It consists of two staves in 3/4 time with a key signature of one sharp (F#). The first measure shows a V chord (D major) with notes D4, F#4, and A4. The second measure shows a (vi) V chord expansion, with notes D4, F#4, and A4 in the upper voice and G3, B3, and D4 in the lower voice.

Example 34 shows another expansion with a root-position auxiliary sonority. This time, vi is expanded by a root-position iii chord:

Example 34:

Musical notation for Example 34. It consists of two staves in 3/4 time with a key signature of one sharp (F#). The first measure shows a vi chord (D minor) with notes D4, F4, and A4. The second measure shows a (iii) vi chord expansion, with notes D4, F4, and A4 in the upper voice and G3, B3, and D4 in the lower voice.

#### Activity 9.5:

Though not as common as in expansions of the tonic, auxiliary sonorities are often used to expand other chords. In this activity you will identify auxiliary-sonority expansions of non-tonic chords.

#### Exercise 9.5a:

In the following passage in A minor (J.S. Bach, “Es woll uns Gott genädig sein,” BWV 312, mm. 1-3), some non-tonic chord is expanded with an auxiliary sonority. Click on the initial reference sonority:

Musical notation for Exercise 9.5a. It shows a passage in A minor (J.S. Bach, BWV 312, mm. 1-3). The key signature has one sharp (F#) and the time signature is common time (C). The passage consists of three measures. The first measure has a D-minor chord (iv) with a 4-3 suspension above the bass. The second measure shows an expansion of the D-minor chord with an auxiliary sonority. The third measure returns to the D-minor chord.

[Answer: the D-minor chord on the downbeat of m. 2. Response if correct: “Correct! The iv chord on the downbeat of m. 2 is expanded via an auxiliary sonority.” Response if incorrect: “Incorrect. Try again. (Hint: The initial reference harmony contains a “4 - 3” suspension above the bass.)”]

[Follow-up multiple choice question]

What type of auxiliary sonority expansion occurs in m. 2?

[Possible answers: “iv (V) iv,” “iv (vii<sup>07</sup>/iv) iv,” “iv (i<sup>6</sup>) iv,” “iv (vii<sup>06</sup>/<sub>4</sub>) iv.” Correct answer: “iv (vii<sup>07</sup>/iv) iv.” Response if correct: “Correct!” Response if incorrect: “Incorrect. Try again.”]

#### Exercise 9.5b:

In the following passage in F major (J.S. Bach, “Gott lebet noch, Seele, was verzagst du doch?,” BWV 320, mm. 3-6), some non-tonic chord is expanded with an auxiliary sonority. Click on the initial reference sonority:

[Answer: the B<sup>b</sup>-major chord on the downbeat of m. 4. Response if correct: “Correct! The IV chord on the downbeat of m. 4 is expanded via an auxiliary sonority.” Response if student clicks on the downbeat of m. 3: “While that is the initial reference sonority of an auxiliary chord expansion, the directions were to find an expansion of a *non-tonic* chord. Try again.” Response for all other incorrect answers: “Incorrect. Try again.”]

[Follow-up multiple choice question]

What type of auxiliary sonority expansion occurs in m. 4?

[Possible answers: “IV (III<sup>6</sup>) IV,” “IV (I<sup>6</sup>) IV,” “IV (I) IV,” “IV (V) IV.” Correct answer: “IV (I) IV.” Response if correct: “Correct!” Response if incorrect: “Incorrect. Try again.”]

#### Exercise 9.5c:

In the following passage in A minor (J.S. Bach, “Heut' triumphieret Gottes Sohn,” BWV 342, mm. 5-8), some non-tonic chord is expanded with an auxiliary sonority. Click on the initial reference sonority:

[Answer: the F-major chord on the downbeat of m. 5. Response if correct: “Correct! The vi chord on the downbeat of m. 5 is expanded via an auxiliary sonority.” Response if incorrect: “Incorrect. Try again.”]

[Follow-up multiple choice question]

What type of auxiliary sonority expansion occurs in m. 5?

[Possible answers: “VI (III<sup>6</sup>) VI,” “VI (vii<sup>o7</sup>/VI) VI,” “VI (V) VI,” “VI (ii<sup>o6</sup><sub>4</sub>) VI.” Correct answer: “vi (III<sup>6</sup>) vi.” Response if correct: “Correct!” Response if incorrect: “Incorrect. Try again.”]

#### Exercise 9.5d:

In the following passage in F major (J.S. Bach, “Ich dank dir, lieber Herre,” BWV 348, mm. 7-8), some non-tonic chord is expanded with an auxiliary sonority. Click on the initial reference sonority:

(IV V IV6)

The image shows a musical score for a phrase in B-flat major, 3/4 time. The final measure (m. 7) features a cadential expansion of the B<sup>b</sup> major chord. The expansion is achieved through an auxiliary sonority where the bass line holds the root (B<sup>b</sup>) while the upper voices move through various chromatic and diatonic paths, including a passing tone (D<sup>b</sup>) and a suspension (F<sup>b</sup>), before resolving to the final chord.

[Answer: the B<sup>b</sup>-major chord on the downbeat of m. 7. Response if correct: “Correct! The IV chord on the downbeat of m. 7 is expanded via an auxiliary sonority.” Response if incorrect: “Incorrect. Try again. (Hint: There is an extra passing tone in one of the voices of this expansion.)”]

[Follow-up multiple choice question]

What type of auxiliary sonority expansion occurs in m. 7?

[Possible answers: “IV (I<sub>4</sub><sup>6</sup>) IV<sup>6</sup>,” “IV (I<sup>6</sup>) IV<sup>6</sup>,” “IV (vi) IV<sup>6</sup>,” “IV (V) IV<sup>6</sup>.” Correct answer: “IV (V) IV<sup>6</sup>.” Response if correct: “Correct!” Response if incorrect: “Incorrect. Try again.”]

### The cadential $\frac{6}{4}$ chord:

One final auxiliary sonority deserves special attention. This particular sonority appears primarily at cadences and coincidentally contains the pitches of I chord in second inversion. Consider the following example:

Example 35 (J.S. Bach, “Mach's mit mir, Gott, nach deiner Güt,” BWV 377, m. 11-12):

The image shows a musical score for a phrase in D major, 3/4 time. The final measure (m. 12) features a cadential  $\frac{6}{4}$  chord. The chord consists of the pitches D (bass), F<sup>#</sup> (middle), and D (treble). This sonority is an embellishment of the dominant (V) chord, containing the pitches of the tonic (I) chord in second inversion (I<sub>4</sub><sup>6</sup>).

Following a IV<sup>6</sup> chord at the end of m. 11, the chord on the downbeat of m. 12 contains the pitches D and F<sup>#</sup> above an A in the bass. Subdominant chords can and sometimes do move directly to tonic chords—as in a plagal cadence—so you may be tempted to label this sonority “I<sub>4</sub><sup>6</sup>.” To do so, however, would contradict the function of both chords. The IV<sup>6</sup> is a pre-dominant chord leading to V. Therefore, the sonority on the downbeat of m. 12 is not a functional tonic chord, but rather an embellishment and intensification of the dominant.

Look again at the D and F<sup>#</sup>. Both are nonharmonic tones: the F<sup>#</sup> is an accented passing tone between scale degrees  $\hat{4}$  and  $\hat{2}$  while the D is a dissonant “4 - 3” suspension delaying the arrival of the leading tone. (See Lesson HHH for a review of nonharmonic tones.) Both pitches resolve on the following beat to a root position V chord and a perfect authentic cadence.

The sonority on the first beat of m. 12 is referred to as a *cadential*  $\frac{6}{4}$  chord. The first two beats of the measure should be analyzed as V<sub>4-3</sub><sup>6-5</sup> to reflect the underlying importance of the V chord in the cadential IV - V - I progression:

Example 36:

IV<sup>6</sup> V<sub>4</sub><sup>6</sup> -  $\frac{5}{3}$  I

The following excerpt provides a clearer example of why a cadential  $\frac{6}{4}$  is not a functional tonic chord:

Example 37 (W.A. Mozart, Piano Sonata in C Major, K. 309, mvt. iii, mm. 74-77):

IV vii<sup>o7</sup>/V V<sub>4</sub><sup>8</sup> V<sub>3</sub><sup>7</sup> I

Measure 74 contains the pre-dominant progression “IV - vii<sup>o7</sup>/V.” This is followed by a  $\frac{6}{4}$  chord in m. 75 finally resolving to the dominant in m. 76. Labeling m. 75 as “I $\frac{6}{4}$ ” would not make sense since it contradicts the necessary resolution of vii<sup>o7</sup>/V to V. “V $\frac{6}{4}$ ” is used instead to reflect the sonority’s function as an embellishment and intensification of the dominant.

Popup box: The cadential  $\frac{6}{4}$  chord originated in the voice-leading practice of delaying the arrival of the leading tone in a cadence. This was usually done by suspending scale degree  $\hat{1}$  from the preceding pre-dominant chord. Delaying the arrival of the fifth of the V chord (scale degree  $\hat{2}$ ) as well completes the  $\frac{6}{4}$  chord. Because the cadential  $\frac{6}{4}$  chord consists primarily of accented, nonharmonic tones, it must always appear in a metrically strong position relative to the resolution. As you can see, this is the case in Example 35.

A cadential  $\frac{6}{4}$  is a type of *accented  $\frac{6}{4}$  chord*. An accented  $\frac{6}{4}$  is a strong-beat chord, dominant or otherwise, that is delayed by a sixth and a fourth above the bass. These non-harmonic tones may be introduced as suspensions, accented passing notes, or appoggiaturas. The following excerpt from Mozart’s Piano Sonata, K. 330 contains two such sonorities:

Example 38 (W.A. Mozart, Piano Sonata in C Major, K. 330, mvt. ii, mm. 1-4):

V<sup>7</sup> vi<sub>4</sub><sup>6</sup> -  $\frac{5}{3}$  vii<sup>o7</sup>/V V<sub>4</sub><sup>6</sup> -  $\frac{5}{3}$

The  $V^7$  chord at the end of m. 1 leads to a  $vi$  chord that is delayed until beat two with a fourth (G) and a sixth (B) suspended above the bass D. Even though the pitches on the downbeat of m. 2 seem to imply the presence of a  $ii^6_4$  chord, the progression “ $V^7 - ii^6_4$ ” would be nonsensical. “ $V^7 - vi^6_{4-3}$ ” is the correct way to analyze this progression.

Similarly, the arrival of the  $V$  chord in m. 4 is also delayed with an accented  $^6_4$  chord. This is preceded by a  $vii^{06}/V$  at the end of m. 3. As was the case in Example 37, it would not make sense for  $vii^{06}/V$  to resolve to a tonic chord (“ $vii^{06}/V - I^6_4 - V$ ”). Instead, the progression should be analyzed as “ $vii^{06}/V - V^6_{4-3}$ ”

### Activity 9.6:

Not all cadential  $^6_4$  chords are as rhythmically straightforward as the one given in Example 35. In this activity you will be presented with the concluding phrases of several Bach chorales, each of which contains a cadential  $^6_4$  chord. After identifying the nonharmonic tones (the fourth and the sixth above the bass), you will be asked how each is introduced.

#### Exercise 9.6a:

Identify the fourth above the bass in the cadential  $^6_4$  chord in this excerpt (J.S. Bach, “Als der gültige Gott vollenden wollt sein Wort,” BWV 264, mm. 9-10):

[Answer: the G dotted quarter note in the alto starting on beat three of m. 9. Response if correct: “Correct!” Response if incorrect: “Incorrect. Try again.”]

[Follow-up multiple choice question:] What type of nonharmonic tone is this?

[Possible answers: “Anticipation,” “Appoggiatura,” “Suspension,” “Accented passing tone.”]

Answer: “Suspension.” Response if correct: “Correct!” Response if incorrect: “Incorrect. Try again.”]

[Follow-up question:] Now identify the sixth above the bass in the cadential  $^6_4$  chord.

[Answer: the B quarter note in the soprano on beat three of m. 9. Response if correct: “Correct!” Response if incorrect: “Incorrect. Try again.”]

[Follow-up multiple choice question:] What type of nonharmonic tone is this?

[Possible answers: “Anticipation,” “Appoggiatura,” “Suspension,” “Accented passing tone.”]

Answer: “Accented passing tone.” Response if correct: “Correct!” Response if incorrect: “Incorrect. Try again.”]

#### Exercise 9.6b:

Identify the fourth above the bass in the cadential  $^6_4$  chord in this excerpt (J.S. Bach, “Alles ist an Gottes Segen,” BWV 263, mm. 11-12):

[Answer: the G quarter note in the alto starting on the downbeat of m. 12. Response if correct: "Correct!" Response if incorrect: "Incorrect. Try again."]

[Follow-up multiple choice question:] What type of nonharmonic tone is this?

[Possible answers: "Anticipation," "Appoggiatura," "Suspension," "Accented passing tone."]

Answer: "Suspension." Response if correct: "Correct!" Response if incorrect: "Incorrect. Try again."]

[Follow-up question:] Now identify the sixth above the bass in the cadential  $\frac{6}{4}$  chord.

[Answer: the B quarter note in the soprano on the downbeat of m. 12. Response if correct: "Correct!" Response if incorrect: "Incorrect. Try again."]

[Follow-up multiple choice question:] What type of nonharmonic tone is this?

[Possible answers: "Anticipation," "Appoggiatura," "Suspension," "Accented passing tone."]

Answer: "Accented passing tone." Response if correct: "Correct!" Response if incorrect: "Incorrect. Try again."]

#### Exercise 9.6c:

Identify the fourth above the bass in the cadential  $\frac{6}{4}$  chord in this excerpt (J.S. Bach, "Nicht so traurig, nicht so sehr," BWV 384, mm. 11-12):

[Answer: the C dotted quarter note in the tenor starting on beat three of m. 11. Response if correct: "Correct!" Response if incorrect: "Incorrect. Try again."]

[Follow-up multiple choice question:] What type of nonharmonic tone is this?

[Possible answers: "Anticipation," "Appoggiatura," "Suspension," "Accented passing tone."]

Answer: "Suspension." Response if correct: "Correct!" Response if incorrect: "Incorrect. Try again."]

[Follow-up question:] Now identify the sixth above the bass in the cadential  $\frac{6}{4}$  chord.

[Answer: the E<sup>b</sup> quarter note in the soprano on beat three of m. 11. Response if correct: "Correct!" Response if incorrect: "Incorrect. Try again."]

[Follow-up multiple choice question:] What type of nonharmonic tone is this?

[Possible answers: “Anticipation,” “Appoggiatura,” “Suspension,” “Accented passing tone.”  
 Answer: “Appoggiatura.” Response if correct: “Correct!” Response if incorrect: “Incorrect. Try again.”]

#### Exercise 9.6d:

Identify the fourth above the bass in the cadential  $\frac{6}{4}$  chord in this excerpt (J.S. Bach, “Es woll uns Gott genädig sein,” BWV 280, mm. 17-18):

The image shows a musical score for Exercise 9.6d. It consists of two staves: a treble clef staff and a bass clef staff. The key signature has one sharp (F#) and the time signature is common time (C). The bass clef staff shows a cadential  $\frac{6}{4}$  chord in measure 18. The notes in the bass clef staff are: G2 (bass), B1 (bass), D2 (bass), and F#2 (bass). The treble clef staff shows a melodic line with notes: G4, A4, B4, C5, B4, A4, G4, F#4, E4, D4, C4, B3, A3, G3, F#3, E3, D3, C3, B2, A2, G2.

[Answer: the A quarter note in the tenor starting on the downbeat of m. 18. Response if correct: “Correct!” Response if incorrect: “Incorrect. Try again.”]

[Follow-up multiple choice question:] What type of nonharmonic tone is this?

[Possible answers: “Anticipation,” “Appoggiatura,” “Suspension,” “Accented passing tone.”  
 Answer: “Suspension.” Response if correct: “Correct!” Response if incorrect: “Incorrect. Try again.”]

[Follow-up question:] Now identify the sixth above the bass in the cadential  $\frac{6}{4}$  chord.

[Answer: the C quarter note in the soprano on the downbeat of m. 18. Response if correct: “Correct!” Response if incorrect: “Incorrect. Try again.”]

[Follow-up multiple choice question:] What type of nonharmonic tone is this?

[Possible answers: “Anticipation,” “Appoggiatura,” “Suspension,” “Accented passing tone.”  
 Answer: “Accented passing tone.” Response if correct: “Correct!” Response if incorrect: “Incorrect. Try again.”]

## Conclusion:

In this lesson we have seen how common interval progressions, coupled with melodic embellishments, may be used to expand harmonies. These individual embellishments combine to form full, four-voiced sonorities. Often, these sonorities coincidentally contain the pitches of familiar chords in first or second inversion. However, even though auxiliary sonorities may resemble those chords, it is important to remember that they do not have the *functional meaning* of those chords. Instead, we refer to them as auxiliary sonorities. In other words, the V in a “I - V<sup>6</sup> - I” expansion does not have a dominant function (as it would in “I - IV - V - I”). Accordingly, we have either placed the auxiliary sonority in parentheses (i.e. “I - (vii<sup>o6</sup>) - I<sup>6</sup>”) or refrained from labeling it altogether (i.e. “I\_\_\_\_\_”). Although root-position triads are permissible, most auxiliary sonorities appear as inverted triads for the sake of smooth voice leading.

Although the majority of this lesson demonstrated the expansion of a I chord, we also saw that similar examples are possible as models for expanding other reference harmonies. In other words, the “I - (vii<sup>o6</sup>) - I<sup>6</sup>” expansion can be used as a model for expanding a ii harmony: “ii - (I<sup>6</sup>) - ii<sup>6</sup>.”

Auxiliary sonorities are an important tool in tonal music. It is important that you learn to recognize them and to distinguish them from functional harmonies.