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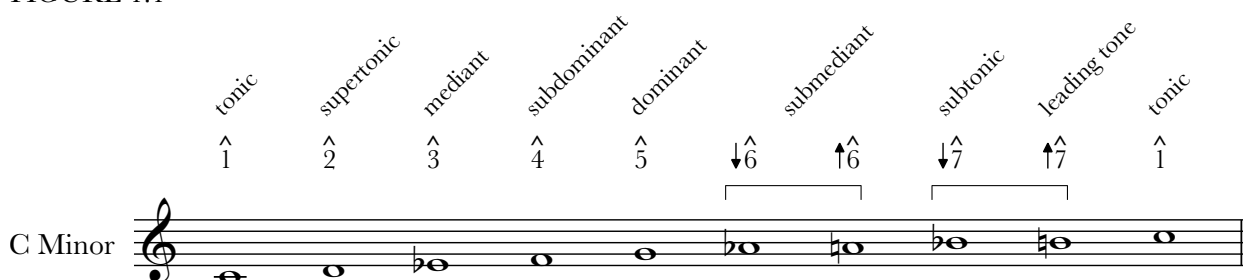
SCALE-DEGREES SIX AND SEVEN IN MINOR

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I. THE MINOR SCALE

- (a) Unlike the major scale, which has a fixed pattern of whole steps and half steps (W–W–H–W–W–W–H), the minor scale features some variability. This is because $\hat{6}$ and $\hat{7}$ in minor exist in two different forms: a *lowered* form ($\downarrow\hat{6}$ and $\downarrow\hat{7}$) and a *raised* form ($\uparrow\hat{6}$ and $\uparrow\hat{7}$).

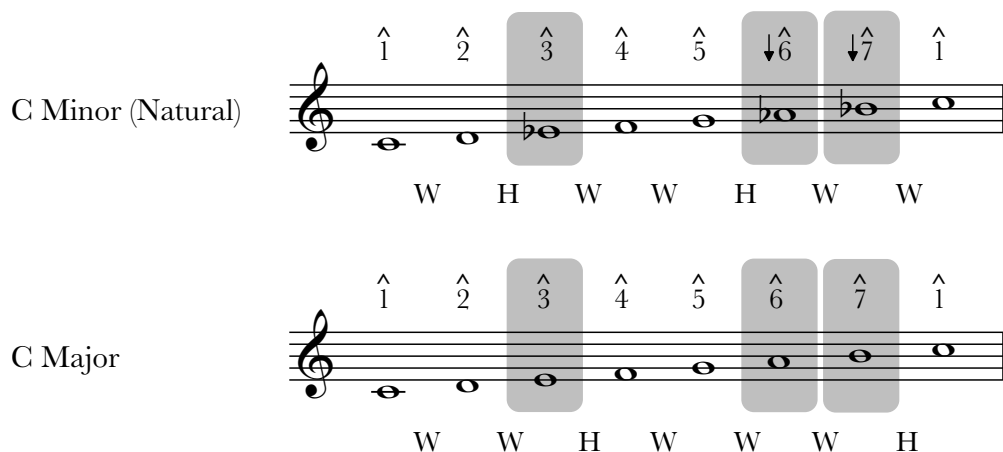
FIGURE 1.1



- (b) Both forms of $\hat{6}$ are referred to as the **submediant**. The two forms of $\hat{7}$, on the other hand, have different names: $\downarrow\hat{7}$ is called the **subtonic**, while $\uparrow\hat{7}$ is called the **leading tone**. (Therefore, with the exception of $\hat{7}$ in its lowered form, every scale degree has the same name in minor as it does in major.)
- (c) Due to the variability of $\hat{6}$ and $\hat{7}$, musicians typically learn three distinct versions of the minor scale.

- 1) The **natural** form of the minor scale uses $\downarrow\hat{6}$ and $\downarrow\hat{7}$. It contains two half steps: $\hat{2}$ – $\hat{3}$ and $\hat{5}$ – $\hat{6}$. If a minor scale in its natural form is compared to the major scale starting on the same note, we see that $\hat{3}$, $\hat{6}$, and $\hat{7}$ are each a half step lower in minor.

FIGURE 1.2



- 2) The **harmonic** form of the minor scale uses $\downarrow\hat{6}$ and $\uparrow\hat{7}$, which are separated by an *augmented second* (equal to a whole step plus a half step). It contains three half steps: $\hat{2}-\hat{3}$, $\hat{5}-\hat{6}$, and $\hat{7}-\hat{1}$.

FIGURE 1.3

C Minor (Harmonic)

$\hat{1}$ $\hat{2}$ $\hat{3}$ $\hat{4}$ $\hat{5}$ $\downarrow\hat{6}$ $\uparrow\hat{7}$ $\hat{1}$
 W H W W H *augmented second* H

- 3) The **melodic** form of the minor scale uses $\uparrow\hat{6}$ and $\uparrow\hat{7}$, but only when it ascends. It contains two half steps: $\hat{2}-\hat{3}$ and $\hat{7}-\hat{1}$. When it descends, the melodic form of the minor scale uses $\downarrow\hat{6}$ and $\downarrow\hat{7}$, just like the natural form of the minor scale.

FIGURE 1.4

C Minor (Melodic)

$\hat{1}$ $\hat{2}$ $\hat{3}$ $\hat{4}$ $\hat{5}$ $\uparrow\hat{6}$ $\uparrow\hat{7}$ $\hat{1}$
 W H W W W W H
 $\hat{1}$ $\downarrow\hat{7}$ $\downarrow\hat{6}$ $\hat{5}$ $\hat{4}$ $\hat{3}$ $\hat{2}$ $\hat{1}$
 W W H W W H W

- (d) Key signatures for minor keys *always* correspond to the **natural** form of the minor scale. Therefore, when the correct key signature is in effect, $\uparrow\hat{6}$ and $\uparrow\hat{7}$ require accidentals, but $\downarrow\hat{6}$ and $\downarrow\hat{7}$ do not. For example:

FIGURE 1.5

F Minor D Minor G# Minor

- (e) Major and minor keys are often paired in one of two ways:

- **Parallel** major and minor keys have the same *tonic*.
- **Relative** major and minor keys have the same *key signature*.

For example, the parallel major of C minor is C major, since both have C as $\hat{1}$, while the relative major of C minor is E \flat major, since both have a key signature of three flats.

II. DIATONIC TRIADS AND SEVENTH CHORDS

- (a) With two exceptions, triads and seventh chords built on the diatonic scale degrees contain either $\hat{6}$ or $\hat{7}$. The exceptions are:

- The triad built on $\hat{1}$ ($\hat{1}-\hat{3}-\hat{5}$), which contains *neither*.
- The seventh chord built on $\hat{7}$ ($\hat{7}-\hat{2}-\hat{4}-\hat{6}$), which contains *both*.

Therefore, except for the tonic triad (which is always minor), every chord in a minor key has the potential for at least two different qualities. For example, the triad built on $\hat{5}$ ($\hat{5}-\hat{7}-\hat{2}$) can be minor (if it contains $\downarrow\hat{7}$) or major (if it contains $\uparrow\hat{7}$).

- (b) In common-practice music, chords that derive from the natural form of the minor scale (i.e., those that occur “naturally” when the correct key signature is in effect) all appear with at least some frequency.

FIGURE 2.1

		m	dim	M	m	m	M	M
Triads								
C minor:		i	ii [°]	III	iv	v	VI	VII
		m7	half-dim7	M7	m7	m7	M7	Mm7
Seventh Chords								
C minor:		i ⁷	ii ^{°7}	III ⁷	iv ⁷	v ⁷	VI ⁷	VII ⁷

- (c) When the root of the chord is $\hat{5}$ or $\hat{7}$, however, the chord is much more likely to use the leading tone ($\uparrow\hat{7}$) than the subtonic ($\downarrow\hat{7}$).

FIGURE 2.2

		M	Mm7	dim	dim7
C minor:		V	V ⁷	vii [°]	vii ^{°7}

- (d) Other chords containing the leading tone occur very infrequently in minor.

FIGURE 2.3

		mM7	aug	augM7
C minor:		i ^{M7}	III ⁺	III ⁺ 7

- (e) Chords containing $\uparrow\hat{6}$ appear much less frequently than those containing $\downarrow\hat{6}$, though some (e.g., IV) occur in a small number of harmonic patterns that were fairly common in the 18th century (see p. 8).

FIGURE 2.4

	m	m7	M	Mm7	dim	half-dim7	M7	half-dim7
C minor:	ii	ii ⁷	IV	IV ⁷	$\#vi^{\circ}$	$\#vi^{\circ 7}$	VII ^{M7}	vii ^{ø7}

III. VOICE LEADING

- (a) The use of $\hat{6}$ and $\hat{7}$ in minor is governed primarily by two voice-leading principles:

1) Half-Step Melodic Resolutions

When $\hat{7}$ moves to $\hat{1}$, or when $\hat{6}$ moves to $\hat{5}$, it is best to use $\uparrow\hat{7}$ and $\downarrow\hat{6}$, respectively. This is because the half-step motion of $\uparrow\hat{7}$ to $\hat{1}$ and $\downarrow\hat{6}$ to $\hat{5}$ emphasizes the melodic resolution of a scale degree that is *less* stable ($\hat{6}$ or $\hat{7}$) to one that is *more* stable ($\hat{5}$ or $\hat{1}$).

FIGURE 3.1

C Minor

The **harmonic** form of the minor scale may be understood as highlighting these two half steps and their significance in minor keys.

2) Avoiding the Augmented Second

Under most circumstances, it is best to avoid moving by augmented second from $\downarrow\hat{6}$ to $\uparrow\hat{7}$ or from $\uparrow\hat{7}$ to $\downarrow\hat{6}$.

The **melodic** form of the minor scale may be understood as combining this principle with the first: $\uparrow\hat{6}$ is used on the way up to avoid the augmented second with $\uparrow\hat{7}$ (which resolves by half step to $\hat{1}$), and $\downarrow\hat{7}$ is used on the way down to avoid the augmented second with $\downarrow\hat{6}$ (which resolves by half step to $\hat{5}$).

FIGURE 3.2

C Minor

- (b) Although the augmented second from $\downarrow\hat{6}$ to $\uparrow\hat{7}$ and from $\uparrow\hat{7}$ to $\downarrow\hat{6}$ should be avoided, diminished sevenths – either from $\downarrow\hat{6}$ down to $\uparrow\hat{7}$ or from $\uparrow\hat{7}$ up to $\downarrow\hat{6}$ – are generally considered okay if the leap is followed by a change of direction.

EXAMPLE 3.1 – Mozart: Requiem in D Minor, K. 626, Kyrie

The image shows a single staff of music in D minor, bass clef, common time. The notes are G (scale degree 6), F (scale degree 7), E (scale degree 6), D (scale degree 5), C (scale degree 4), and B (scale degree 3). Above the staff, a bracket labeled "diminished seventh" spans from the G note to the F note. Below the staff, the lyrics "Ky - ri - e e - le - i - son" are written under the notes.

- (c) The following excerpt (in G minor) exemplifies each of the aforementioned voice-leading principles.

EXAMPLE 3.2 – Bach: Chorale No. 301, “Ach, lieben Christen, seid getrost”

The image shows a two-staff musical excerpt in G minor, common time. The top staff is the treble clef and the bottom staff is the bass clef. The music consists of two measures, each with a repeat sign. Above the first measure, there are annotations: $\uparrow\hat{7}$ above the first note, $\downarrow\hat{6}$ above the second note, and $\hat{5}$ above the third note. Above the second measure, there are annotations: $\downarrow\hat{6}$ above the first note and $\hat{5}$ above the second note. Below the first measure, there are annotations: $\uparrow\hat{6}$ below the first note, $\uparrow\hat{7}$ below the second note, $\hat{1}$ below the third note, $\downarrow\hat{7}$ below the fourth note, $\downarrow\hat{6}$ below the fifth note, and $\hat{5}$ below the sixth note. Below the second measure, there are annotations: $\uparrow\hat{7}$ below the first note and $\hat{1}$ below the second note.

IV. HARMONY

(a) In minor keys, harmonic progressions are often constructed from the following chords:

- the tonic triad
- V, V⁷, and vii^o (all of which contain $\uparrow\hat{7}$)
- ii^o, ii^{o7}, iv, iv⁷, and VI (all of which contain $\downarrow\hat{6}$)
- vii^{o7} (which contains both $\downarrow\hat{6}$ and $\uparrow\hat{7}$)

Furthermore, harmonic progressions in minor keys tend to confirm voice-leading principle #1 (Half-Step Melodic Resolution). In other words:

- $\uparrow\hat{7}$ tends to resolve to $\hat{1}$ (e.g., when V or V⁷ moves to the tonic triad)
- $\downarrow\hat{6}$ tends to resolve to $\hat{5}$ (e.g., when iv or ii^{o6} moves to V)

FIGURE 4.1

c: i iv V i

FIGURE 4.2

c: vii^{o7} i

(b) There are, nevertheless, a number of important progressions that feature chords containing either $\uparrow\hat{6}$ or $\downarrow\hat{7}$. Such progressions tend to fall into one (or more) of the following categories:

- 1) harmonic sequences
- 2) harmonizations of $\uparrow\hat{6}-\uparrow\hat{7}-\hat{1}$ and $\hat{1}-\downarrow\hat{7}-\downarrow\hat{6}$
- 3) progressions that juxtapose $\downarrow\hat{6}$ and $\uparrow\hat{6}$ and/or $\downarrow\hat{7}$ and $\uparrow\hat{7}$
- 4) progressions that tonicize III

Each of these categories is addressed over the next several pages.

1) HARMONIC SEQUENCES

Harmonic sequences in minor keys tend to feature chords from the natural form of the minor scale (i.e., chords that contain $\downarrow\hat{6}$ and $\downarrow\hat{7}$). However, if the sequence ends with a dominant–tonic progression (or on a chord with dominant function), the leading tone should be used instead of the subtonic.

FIGURE 4.3

Descending Fifths Sequence

c: i iv VII III VI ii° V i

FIGURE 4.4

Down a Third/Up a Fourth Sequence
(Ascending 5-6 Technique)

c: i VI⁶ ii° VII⁶ III i⁶ iv ii°⁶ V

FIGURE 4.5

Down a Fourth/Up a Second Sequence
(Descending 5-6 Technique)

c: i v⁶ VI III⁶ iv i⁶
(no dominant–tonic progression)

FIGURE 4.6

Parallel $\frac{5}{3}$ Chords

i v⁶ iv⁶ III⁶ ii°⁶ i⁶ vii°⁶ i

2) HARMONIZATIONS OF $\uparrow\hat{6}-\uparrow\hat{7}-\hat{1}$ and $\hat{1}-\downarrow\hat{7}-\downarrow\hat{6}$

Harmonizations of the voice-leading patterns $\uparrow\hat{6}-\uparrow\hat{7}-\hat{1}$ and $\hat{1}-\downarrow\hat{7}-\downarrow\hat{6}$ occur throughout common-practice music, but especially in music from the early- to mid-18th century. The voice-leading pattern may appear in either the bass line or an upper voice.

(i) $\uparrow\hat{6}-\uparrow\hat{7}-\hat{1}$ in the Bass

In these progressions, $\uparrow\hat{6}$ tends to be harmonized with chords such as IV^6 , IV^6_5 , or $\#vi^{o7}$. Progressions involving this bass-line pattern are often used to harmonize a $\hat{5}-\hat{4}-\hat{3}$ descent in the top voice.

FIGURE 4.7a

FIGURE 4.7b

FIGURE 4.7c

c: V IV⁶ V⁶₅ i V #vi^{o7} V⁶₅ i i IV⁶₅ V⁶₅ i

(ii) $\uparrow\hat{6}-\uparrow\hat{7}-\hat{1}$ in an Upper Voice

FIGURE 4.8

c: i⁶ IV vii^{o6} i

(iii) $\hat{1}-\downarrow\hat{7}-\downarrow\hat{6}$ in the Bass

In these progressions, $\downarrow\hat{7}$ tends to be harmonized with a v^6 chord as part of a direct (in the case of fig. 4.9a) or indirect (in the case of fig. 4.9b) approach to V.

FIGURE 4.9a

FIGURE 4.9b

c: i v⁶ iv⁶ V i v⁶ iv⁶ i⁶₄ ii^{o6}₅ V

The bass-line descent $\hat{1}-\downarrow\hat{7}-\downarrow\hat{6}-\hat{5}$ is often referred to as the “lament bass.”

(iv) $\hat{1}-\downarrow\hat{7}-\downarrow\hat{6}$ in an Upper Voice

FIGURE 4.10

c: i III iv i

(v) Please note that harmonic sequences are also frequently used to harmonize the descending minor scale (in its natural form). For example, figures 4.5 and 4.6 (see p. 7) both feature a descending scale in the bass.

3) PROGRESSIONS THAT JUXTAPOSE $\downarrow\hat{6}$ AND $\uparrow\hat{6}$ AND/OR $\downarrow\hat{7}$ AND $\uparrow\hat{7}$

(i) Chromatic Descent from $\hat{1}$ to $\hat{5}$ in the Bass

This is the chromatic version of the lament bass. (The progressions in fig. 4.11 represent just two of the many ways that a composer may harmonize this bass line.)

FIGURE 4.11a

FIGURE 4.11b

c: i V⁶ v⁶ IV⁶ iv⁶ V i V⁶ V²/_{IV} IV⁶ Ger⁺⁶ V⁴⁻³

(ii) Harmonizations of $\downarrow\hat{7}-\uparrow\hat{7}-\hat{1}$

FIGURE 4.12

c: III V³/₄ i VII⁷ V⁵/₄ i

(iii) $\downarrow\hat{6}-\uparrow\hat{6}$ in Consecutive Pre-Dominant Chords

V is sometimes approached by two different pre-dominant chords – the first containing $\downarrow\hat{6}$, the second (usually a secondary dominant or secondary leading-tone chord) containing $\uparrow\hat{6}$. In this situation, the voice-leading pattern $\downarrow\hat{6}-\uparrow\hat{6}$ tends to appear as an inner voice, since the move from $\downarrow\hat{6}$ to $\uparrow\hat{6}$ weakens the expected resolution of $\downarrow\hat{6}$ to $\hat{5}$. (It is however possible for the pattern $\downarrow\hat{6}-\uparrow\hat{6}-\hat{5}$ or $\downarrow\hat{6}-\uparrow\hat{6}-\uparrow\hat{7}$ to occur in the bass line.)

FIGURE 4.13a

FIGURE 4.13b

c: iv V^6_5/V V bII^6 vii^{o7}/V V

4) PROGRESSIONS THAT TONICIZE III

Although the III chord is used less frequently than many of the other diatonic chords in minor, when it does appear, it is often preceded by a VII or VII⁷ chord. In such cases, the subtonic chord tends to sound like a secondary dominant that is tonicizing III (the relative major of the home key). This tonicization may either be embedded within a harmonic progression that remains in the home key (as in fig. 4.14a) or it may be used to effect a modulation to the relative major (as in fig. 4.14b).

FIGURE 4.14a

FIGURE 4.14b

c: i VII⁶ III ii^{o6} V i VII⁷ III
 (V^6/III) E \flat : V⁷ I ii⁶ V (etc.)

- (c) In minor-mode compositions, closely-related keys (i.e., those with key signatures that differ by no more than one sharp or flat from the key signature of the home key) correspond to the major and minor triads derived from the natural form of the minor scale. In C minor, for example, the closely-related keys are E \flat major (III), F minor (iv), G minor (v), A \flat major (VI), and B \flat major (VII).

Therefore, although chords that contain $\downarrow\hat{7}$ have a relatively limited set of uses in terms of local harmonic progressions, modulations to their corresponding keys (in particular, to III and v) are incredibly common (indeed, more common than modulations to other keys).

V. MELODIC FIGURATION

(a) When $\hat{6}$ and $\hat{7}$ occur as melodic embellishments (passing tones, neighbor tones, etc.), the two voice-leading principles discussed in section 3 (pp. 4–5) should be adhered to, but with the following qualifications:

- Chord tones should not be altered.
- Priority is generally given to voice-leading principle #2 (Avoiding the Augmented Second) over voice-leading principle #1 (Half-Step Melodic Resolutions).

Below are the most common scenarios that one is likely to encounter.

1) If the tonic triad is being embellished (i.e., if $\hat{6}$ and $\hat{7}$ are both non-chord tones):

FIGURE 5.1

- (i) Use $\downarrow\hat{6}$ as an upper neighbor to $\hat{5}$. (iii) Use $\uparrow\hat{6}$ and $\uparrow\hat{7}$ as passing tones from $\hat{5}$ to $\hat{1}$.
 (ii) Use $\uparrow\hat{7}$ as a lower neighbor to $\hat{1}$. (iv) Use $\downarrow\hat{7}$ and $\downarrow\hat{6}$ as passing tones from $\hat{1}$ to $\hat{5}$.

2) If a chord containing $\downarrow\hat{6}$ (other than vii^{07}) is being embellished (i.e., if $\hat{7}$ is a non-chord tone):

FIGURE 5.2

- (i) Use $\downarrow\hat{7}$ as an upper neighbor to $\downarrow\hat{6}$. (iii) Use $\downarrow\hat{7}$ as a passing tone from $\downarrow\hat{6}$ to $\hat{1}$.
 (ii) Use $\uparrow\hat{7}$ as a lower neighbor to $\hat{1}$. (iv) Use $\downarrow\hat{7}$ as a passing tone from $\hat{1}$ to $\downarrow\hat{6}$.

3) If a chord containing $\uparrow\hat{7}$ (other than vii^{07}) is being embellished (i.e., if $\hat{6}$ is a non-chord tone):

FIGURE 5.3

- (i) Use $\downarrow\hat{6}$ as an upper neighbor to $\hat{5}$. (iii) Use $\uparrow\hat{6}$ as a passing tone from $\hat{5}$ to $\uparrow\hat{7}$.
 (ii) Use $\uparrow\hat{6}$ as a lower neighbor to $\uparrow\hat{7}$. (iv) Use $\uparrow\hat{6}$ as a passing tone from $\uparrow\hat{7}$ to $\hat{5}$.

- 4) If vii^{07} is being embellished (i.e., if $\downarrow\hat{6}$ and $\uparrow\hat{7}$ are both chord tones):

FIGURE 5.4

(i) (ii)

C Minor

- (i) Use $\downarrow\hat{7}$ as an upper neighbor to $\downarrow\hat{6}$.
 (ii) Use $\uparrow\hat{6}$ as a lower neighbor to $\uparrow\hat{7}$.

(Because $\hat{6}$ and $\hat{7}$ are adjacent scale degrees, they cannot be connected with a diatonic passing tone.)

The use of $\uparrow\hat{6}$ or $\downarrow\hat{7}$ to embellish vii^{07} can sound quite harsh. Nevertheless, it does occur from time to time, as in the following excerpt:

EXAMPLE 5.1 – Mozart: Piano Sonata in B \flat Major, K. 333, I

43

$\downarrow\hat{6}/d$

$\uparrow\hat{6}/d$

F: IV V $\text{vii}^{07}/\hat{6}$ vi

- (b) To a large extent, the preceding rules generate scalar passages that conform to the melodic form of the minor scale (i.e., $\uparrow\hat{6}$ and $\uparrow\hat{7}$ are used on the way up, while $\downarrow\hat{7}$ and $\downarrow\hat{6}$ are used on the way down). However, this is not always the case, as can be seen in the following excerpts:

EXAMPLE 5.2 – Handel: Harpsichord Suite No. 7 in G Minor, HWV 432, Andante

30

$\uparrow\hat{7}$ $\uparrow\hat{6}$

$\downarrow\hat{7}$ $\downarrow\hat{6}$

g: V $\text{i}-\hat{6}$ ii^{06} V i

EXAMPLE 5.3 – Bach: Cantata No. 114, Chorus (orchestra only)

g: i ————— iv —————

i ————— V7 ————— i

EXAMPLE 5.4 – Bach: *Well-Tempered Clavier*, Book I, Prelude in E Minor

e: VI ————— iv ————— V7 ————— I

* The D# (^7) near the end of m. 40 anticipates the D# in m. 41. The C# (^6) is therefore best understood as a lower neighbor to the leading tone (rather than a chord tone).

- (c) Since the harmonic form of the minor scale violates voice-leading principle #2 (Avoiding the Augmented Second), it tends to be avoided for scalar passages in a single voice. There are however exceptions to this rule, especially for embellishments of the dominant or (less often) tonic harmony.

(Please note that in each of the excerpts below, the augmented second occurs as part of a *descending* scale. This is much more common than the augmented second occurring as part of an *ascending* scale.)

EXAMPLE 5.5 – Vivaldi: Violin Concerto in G Minor, Op. 8, No. 2, I

g: i ————— V⁷ ————— i —————

EXAMPLE 5.6 – Mozart: Symphony No. 14 in A Major, K. 114, III

a: i ————— V^{3/4} ————— 6 ————— i ————— 6 ————— V ————— i —————

EXAMPLE 5.7 – Beethoven: Piano Sonata in A Major, Op. 2, No. 2, III

a: iv — i⁶ — vii^{°6} — i ————— V ————— 6 ————— i —————