

Chapter 3 – Musical Density: Triads, Seventh Chords, and Texture

Exercise 1: Each given pitch can function as the root, third, or fifth of major, minor, and diminished triads as shown in the sample solution. On a separate sheet of manuscript paper, notate and label the nine possible triads that can be generated from each given pitch.

Example:

A musical staff in treble clef showing ten triads. The first note is G. Below the staff are labels: G, GM, g, g°, Eb, e, e°, C, c, c°. The triads are: G (root), G major (GM), G minor (g), G diminished (g°), G major with Eb (Eb), G minor with e (e), G diminished with e (e°), G major with C (C), G minor with c (c), and G diminished with c (c°).

A.

A musical staff in treble clef showing ten triads for pitch G, corresponding to the labels in the example.

B.

A musical staff in treble clef showing ten triads for pitch g, corresponding to the labels in the example.

C.

A musical staff in treble clef showing ten triads for pitch Eb, corresponding to the labels in the example.

A musical staff in treble clef showing ten triads for pitch e, corresponding to the labels in the example.

Exercise 2: Identify the root, type of triad (major, minor, diminished, or augmented), and inversion (if any). Then, transpose each given sonority down a perfect fifth or its compound (or up a perfect fourth, or its compound), notating it on the given empty staff (above or below).

A musical staff in grand staff showing seven triads. Labels above the staff: A. g minor, B. A Major, C. C Major $\frac{6}{3}$, D. F# Major, E. E dim. $\frac{6}{3}$, F. d minor $\frac{6}{3}$, G. Bb minor $\frac{6}{4}$.

Exercise 3: Error detection. Each of the following labeled triads is notated with various doublings. However, one of the pitch classes in each example is incorrect. Circle and correct the error in each example.

A musical staff in grand staff showing seven triads. Labels below the staff: A. D $\frac{6}{3}$, B. Bb $\frac{6}{4}$, C. A $\frac{5}{3}$, D. C# $\frac{6}{3}$, E. eb $\frac{5}{3}$, F. c° $\frac{6}{3}$, G. ab $\frac{6}{4}$. Some notes in the triads are circled to indicate errors.

Exercise 4: Triad construction. Each triad notated below can occur in several keys (see the sample solution, in which an E minor triad is found in at least six different keys). Notate the given triad, the key, the key signature, and the Roman numeral of every major and minor key in which the given triad may occur. Use a separate sheet of manuscript paper.

A.

e:i G:vi A:v b:iv C:iii D:ii

B.

G:i a:VII b:VI c:V D:IV e:III

C.

Bb:I c:VII D:VI Eb:V F:IV g:III

D.

d:i C:ii Bb:iii a:iv g:v F:vi

E.

A:I b:VII c#:VI D:V E:IV f#:III

F.

fi Ab:vi bb:v C:iv Db:iii Eb:ii

G.

Ab:I Bb:VII c:VI Db:V Eb:IV f:III

H.

E:I f#:VII g#:VI A:V B:IV c#:III

Exercise 5: Analysis. A major or minor key is given as well as a triad. Add accidentals necessary to conform to the given key (do not add a key signature) and a Roman numeral and figured bass analysis.

A. B. C. D. E. F. G. H. I. J. K. L.

D: vi F: V⁶ Ab: vi f#: VI⁶₄ B: V⁶ f: VI eb: ⁶₁₄ E: vi⁶ Db: iii Gb: iii⁶₄ b: v⁶ eb: ii⁶

Exercise 6: Writing Triads. Construct triads as indicated by the given major or minor key and the Roman numeral. Use accidentals, not key signatures.

A.	B.	C.	D.	E.	F.	G.
D:IV	E \flat :vi	d:III	A:V	b:vii $^{\circ}$	F:ii	B:V
H.	I.	J.	K.	L.	M.	N.
A \flat :I	f:III	E \flat :IV	C \sharp :IV	b \flat :VI	B:vii $^{\circ}$	C \flat :vi

Exercise 7: Analysis. Determine the key, then, for each sonority marked with an arrow, add a complete figured bass (e.g., even root-position chords will receive 5_3).

Allegro assai

Horns in C
Flute
Violin I
Violin II
Viola
Double Bass

C: $\begin{matrix} 5 & 6 & 5 & 6 & 6 & 5 & 6 & 6 & 5 & 5 \\ 3 & 3 & 3 & 3 & 3 & 3 & 3 & 3 & 3 & 3 \end{matrix}$

Exercise 8: Notation. Realize the following figured basses by notating two pitches at the required intervals immediately above the bass pitch to create complete triads (notate in the bass clef). Observe chromatic alterations in the figured bass. Then, add Roman numerals based on your realization.

A.

e: i vii $^{\circ 6}$ V 6 i V 6 iv 6 V i i $^{\flat 6}$ ii 6 V $^{\flat 4}$ $\frac{5}{\sharp}$ I

Exercise 8: Notation. Cont'd

B.

D: I V⁶ I I⁶ IV vii⁶ I V⁶ vi I₄ ii⁶ V I

Exercise 9: Triads within a key. In chorale style (SATB), notate the following triads based on the Roman numerals in the given key. Double the root of the chord except in vii, when you will double the third of the chord. Follow the indicated spacing: "O" for open and "C" for close.

A.

D: IV (o) I (c) iii (c) V⁶ (o) I⁶ (o) vii⁶ (c) IV⁶ (c) I₄ (o)

B.

g: III⁶ (o) V (o) i⁶ (o) ii⁶ (c) V₄ (o) vii⁶ (c) iv⁶ (o) V (c) VI (o) i (o)

Exercise 10: Triads within a key. In chorale style (SATB), notate the following triads based on the Roman numerals in the given key. Double the root of the chord except in vii, when you will double the third of the chord. The goal is to move from one chord to the next using as little motion as possible. This can be accomplished by holding common tones between chords and by moving to the next chord's members by step.

A.

I V⁶ I iii vi ii V IV vii⁶ I⁶ I₄ V i

B.

V⁶ i iv ii⁶ V VI VI⁶ i iv⁶ V V⁶ i

Exercise 11: Building seventh chords. Construct root-position seventh chords based on the figured bass. Identify each type of seventh chord.

A. B.

7 #7 6 7 4 4 b6 #6 4 6 b7 4
 mm MM mm dm MM Mm mm dm Mm Mm dd mm

Exercise 12: Analysis of seventh chords. Given the key and seventh chords (all of which appear in inversion), circle the root of each chord, then identify the following:

- * type of seventh chord
- * figured bass
- * Roman numeral

A. B.

e: i⁶ vii⁴₂ iv⁶₅ VI⁶ F: iii⁴₂ V⁴₃ vii⁶₅ IV⁴₂
 mm dd mm MM mm Mm dm MM

C. D.

B^b: I⁶ vi⁶ V⁴₃ ii⁶₅ d: iv⁶₅ V⁴₂ i⁴₂ vii⁶₅
 MM mm Mm mm mm Mm mm dd

Exercise 13: Verticalization. Each excerpt is cast in a florid style, yet depends on the flow of harmonies. Circle each harmony and provide an analysis of each chord type and inversion. Do not use Roman numerals.

A.

Soprano
 E - ter - ni - ty, O thun - d'rous word, O sword that through my

Alto
 E - ter - ni - ty, O thun - d'rous word, O sword that through my

Tenor
 E - ter - ni - ty, O thun - d'rous word, O sword that through my

Bass
 E - ter - ni - ty, O thun - d'rous word, O sword that through my

M M d⁶₃ M⁶₃ M M M M M m M mm mm

Exercise 13: Verticalization. Circle each harmony and provide an analysis of each chord type and inversion. Do not use Roman numerals. Cont'd

A. Cont'd

Chord analysis for Exercise 13A, Cont'd:

- Staff 1: $d \frac{6}{5}$, $M \frac{6}{3}$, M, $M \frac{6}{3}$, m, $m \frac{6}{3}$, m, m, $mm \frac{6}{5}$, M

Chord analysis for Exercise 13B:

- M, $Mm \frac{4}{2}$, $M \frac{6}{3}$, $Mm \frac{4}{3}$, M, $m \frac{6}{4}$

Chord analysis for Exercise 13C:

- dd, m, $dm \frac{6}{5}$, $Mm \frac{4}{3}$, $m \frac{6}{3}$, $dd \frac{6}{5}$, M

C.

Chord analysis for Exercise 13C:

- $M \frac{6}{4}$, Mm , M

C. Cont'd

si - so a te vi - cin Ti par - lai, ben_ mio, d'a - mor,

M_3^6 M_3^6 M_4^6 dd_5^6 M_4^6 Mm M

D.

f f f_m Mm_5^6

m Mm Mm m

M Mm Mm

Exercise 14: Identifying Root Position Triads. Label the root and triad type of each of the triads in close and open position. Then, transpose each triad as required.

Exercise 14 shows two staves of musical notation. The top staff contains six triads with the following labels and transposition directions: a minor (down arrow M3), F# dim. (up arrow P5), D minor (up arrow m2), G# minor (down arrow M3), B Major (up arrow M6), and Gb Major (down arrow d5). The bottom staff contains seven triads with the following labels and transposition directions: (up arrow M2), (up arrow m7), (up arrow P4), (up arrow A4), (down arrow P4), (up arrow m3), and (up arrow A4).

Exercise 15: Constructing Root Position Triads. Given is the *third* of various types of triads. Construct close-position triads by adding the root and fifth as required.

Exercise 15 shows two staves of musical notation. The top staff contains six triads with labels M, d, m, m, d, and A above them. The bottom staff contains six triads with labels d, M, M, m, m, and d below them.

Exercise 16: Constructing Root Position Triads. Given is the *fifth* of various types of triads. Construct close-position triads by adding the root and third as required.

Exercise 16 shows two staves of musical notation. The top staff contains seven triads with labels M, A, m, M, m, A, and M above them. The bottom staff contains seven triads with labels M, d, A, m, m, M, and A below them.

Exercise 17: Constructing Triads in Inversion. Construct the required triad type and inversion in *close position*.

Exercise 17 shows two staves of musical notation. The top staff contains six triads with labels D⁵, f⁵, E⁴, A^{b6}, b⁴, and c⁵ below them. The bottom staff contains six triads with labels x, u, and x below them.

Exercise 18: Constructing Triads in Inversion. Construct the required triads in four voice (SATB) *open position* (use half note values and be aware of stem direction). Double the root in each triad

Exercise 19: Analysis. Analyze each harmony using roman numerals and figured bass. For exercise 2, add stems in chorale style.

A.

B.

Exercise 20: Figured Bass Realization. Based on the given figured bass, add the tenor and alto voices. *Double the root.* Label root and type of triad.

Exercise 21: Figured Bass. Using keyboard spacing, realize each of the figured bass examples. Double the root. Label the root and type of each triad.

The image shows a series of nine figured bass examples on a grand staff. Each example consists of a treble clef staff with a figured bass line and a bass clef staff with a single bass note. The figures are: 1. C major, root position: C4, E4, G4. 2. C major, first inversion: C4, E4, G4. 3. C major, second inversion: C4, E4, G4. 4. C major, root position: C4, E4, G4. 5. C major, first inversion: C4, E4, G4. 6. C major, second inversion: C4, E4, G4. 7. C major, root position: C4, E4, G4. 8. C major, first inversion: C4, E4, G4. 9. C major, second inversion: C4, E4, G4.

Exercise 22: Figured Basses within a Key. The two figured basses below are each in a single key.

- Realize each of the two figured basses in keyboard style.
- Double the root except for the vii chord, for which you will double the third of the chord.
- Move each of the voices from one chord to the next by the smallest possible motion and if possible, keep common tones (that is, pitches that are the same between two chords).
- Add roman numerals

A.

The image shows a sequence of chords in D major, 4/4 time. The chords are: D major (V), D minor (i), D major (VI), D minor (ii⁶), D major (V), D minor (iv), D major (I⁴), D minor (iv), D major (I⁶), D minor (vii⁶), D major (i), D major (VI⁶), D minor (iv), D major (I⁴), D minor (v), D major (i).

d: V i VI ii⁶ V iv I⁴ iv I⁶ vii⁶ i VI⁶ iv I⁴ v i

B.

The image shows a sequence of chords in D major, 4/4 time. The chords are: D major (V), D minor (i), D major (VI), D minor (ii⁶), D major (V), D minor (iv), D major (I⁴), D minor (iv), D major (I⁶), D minor (vii⁶), D major (i), D major (VI⁶), D minor (iv), D major (I⁴), D minor (v), D major (i).

Exercise 23: Analysis. Label the type of each of the triads in the following examples. Include a figured bass analy-

A. (♩ = 126)

p

Soprano I
Chio - stri al - tis - si - mi e stel - la - ti,

Soprano II
Chio - stri al - tis - si - mi e stel - la - ti,

Alto
Chio - stri al - tis - si - mi e stel - la - ti,

Tenor
Chio - stri al - tis - si - mi e stel - la - ti,

Bass
Chio - stri al - tis - si - mi e stel - la - ti,
G D G F G D D

B.

S.
Ho - ne - stum fe - cit il - lum Do - mi - nus, et cu - sto -

A.
Ho - ne - stum fe - cit il - lum Do - mi - nus, et

T.
Ho - ne - stum fe - cit il - lum Do - mi - nus, et cu - sto -

B.
Ho - ne - stum fe - cit il - lum Do - mi - nus, et
Ab f Eb Ab⁶ $\frac{5}{3}$ Ab Db Ab f⁶ Ab

Exercise 23: Analysis. Label the type of each of the triads in the following examples. Cont'd.

C. $(\text{♩}=\text{♩})$ Tempo I

S. *f* phans, di - vi - ti - as coe - lo con - di - dit

A. *f* phans, di - vi - ti - as coe - lo con - di - dit

T. *f* phans, di - vi - ti - as coe - lo con - di - dit

B. *f* phans, di - vi - ti - as coe - lo con - di - dit

A D A g A d F g A

D.

S. *pp* il - los tu - os mi - se - ri - cor - des o - cu - los ad nos con - ver - te.

A. *pp* il - los tu - os mi - se - ri - cor - des o - cu - los ad nos con - ver - te.

T. *pp* il - los tu - os mi - se - ri - cor - des o - cu - los ad nos con - ver - te.

B. *pp* il - los tu - os mi - se - ri - cor - des o - cu - los ad nos con - ver - te.

g D G C F[♯] B^b F[♯] g e^{♯6} F b^{♯3} C^{♯6} F c c^{♯3} D G

Exercise 24: Analysis of Root Position Seventh Chords. Identify the type of each of the following seventh chords notated in open position. Label each member of the triad (root, third, fifth, and seventh) as follows: 1, 3, 5, 7.

A. $c\#$ mm G Mm F MM D dd b dm $g\#$ dm $B\flat$ Mm $F\#$ dd

The image shows eight root position seventh chords in open position on a grand staff. Each chord is labeled above the staff with its name and quality. Fingerings are indicated by numbers 1, 3, 5, and 7. The chords are: $c\#$ mm (root C#, 3rd E, 5th G, 7th B), G Mm (root G, 3rd B, 5th D, 7th F), F MM (root F, 3rd A, 5th C, 7th E), D dd (root D, 3rd F, 5th A, 7th C), b dm (root B, 3rd D, 5th F, 7th A), $g\#$ dm (root G#, 3rd B, 5th D, 7th F), $B\flat$ Mm (root B, 3rd D, 5th F, 7th A), and $F\#$ dd (root F#, 3rd A, 5th C, 7th E).

Exercise 25: More Analysis of Root Position Seventh Chords. Identify the type of each of the following seventh chords notated in open position. Circle the seventh of the chord in each example.

e mm $D\flat$ MM g mm $C\#$ Mm $A\flat$ Mm f mm f dd

The image shows seven root position seventh chords in open position on a grand staff. Each chord is labeled above the staff with its name and quality. The chords are: e mm (root E, 3rd G, 5th B, 7th D), $D\flat$ MM (root D, 3rd F, 5th A, 7th C), g mm (root G, 3rd B, 5th D, 7th F), $C\#$ Mm (root C#, 3rd E, 5th G, 7th B), $A\flat$ Mm (root A, 3rd C, 5th E, 7th G), f mm (root F, 3rd A, 5th C, 7th E), and f dd (root F, 3rd A, 5th C, 7th E).

Exercise 26: Analysis of Seventh Chords in Inversion. Circle the root and label the type of seventh chord and provide a full figured-bass analysis.

D Mm C Mm G Mm E Mm F Mm A Mm

$E\flat$ Mm a mm b dd $F\#$ dm b dd A MM

The image shows two rows of seventh chords in inversion on a grand staff. Each chord is labeled above the staff with its name and quality. Below each chord is a full figured-bass analysis. The chords and their figured bass are: D Mm (6 5), C Mm (4 3), G Mm (4 2), E Mm (4 3), F Mm (4 2), A Mm (4 2), $E\flat$ Mm (6 5), a mm (6 5), b dd (4 3), $F\#$ dm (4 2), b dd (6 5), and A MM (4 3).

Exercise 27: Writing Root Position Seventh Chords.

Root given

C C O O O C O

e mm g# dd B \flat MM A Mm g mm b dm F# Mm

3rd given

A MM C Mm d mm E Mm g# dd g dm A Mm

5th given

d mm b mm F# Mm A MM d \flat mm g dd c# dm

7th given

D Mm a mm G MM b dd a dm F# Mm c# dm

Exercise 28: Analysis within a key. For each of the following root-position seventh chords in the key of D major supply a roman numeral and label the type of seventh chord.

(mm) (MM) (mm) (mm) (Mm) (MM)

D: iiii⁷ I⁷ vi⁷ iii⁷ V⁷ I⁷

Exercise 29: Writing Seventh Chords Within a Key. Given is a Key, roman numeral and figured bass. Notate the required chord in close position using accidentals (that is, no key signature). Label each type of seventh chord.

Exercise 29 musical notation showing two staves with figured bass and chord labels. The top staff is in treble clef and the bottom staff is in bass clef. The chords and their labels are as follows:

Staff	Figured Bass	Chord Label
Treble	$\text{Eb}: \text{I}^7$	MM
Bass	$\text{d}: \text{ii}^{\text{m}}$	dm
Treble	$\text{V}^{\text{b}4}$	Mm
Bass	iv^7	mm
Treble	ii^{m}	mm
Bass	$\text{V}^{\text{b}4}$	Mm
Treble	$\text{D}: \text{IV}^7$	MM
Bass	$\text{A}: \text{vii}^{\text{m}}$	dm
Treble	$\text{vi}^{\text{b}4}$	mm
Bass	$\text{V}^{\text{b}4}$	Mm
Treble	$\text{I}^{\text{b}5}$	MM
Bass	vi^{m}	m

Exercise 30: Figured-Bass Analysis. Provide a full figured-bass analysis (including appropriate accidentals) for each of the following chords.

Exercise 30 musical notation showing figured bass analysis for various chords. The chords and their figured bass notations are as follows:

Chord Label	Figured Bass
dm	$\begin{matrix} 6 \\ 5 \\ \flat \end{matrix}$
MM	$\begin{matrix} 6 \\ \sharp 5 \end{matrix}$
mm	$\begin{matrix} \flat 4 \\ 2 \end{matrix}$
Mm	$\begin{matrix} \sharp 6 \\ 4 \\ 3 \end{matrix}$
Mm	$\begin{matrix} 6 \\ \flat 5 \end{matrix}$
mm	$\begin{matrix} 7 \\ \sharp 5 \end{matrix}$
mm	$\begin{matrix} \flat 6 \\ \flat 4 \\ \flat 2 \end{matrix}$
Mm	$\begin{matrix} 6 \\ 5 \\ \sharp \end{matrix}$

Exercise 31: Figured-Bass Realization. Based on the given figured bass, notate chords in four voices (SATB) and identify the type of seventh chord.

Exercise 31 musical notation showing figured bass realization for various chords. The chords and their figured bass notations are as follows:

Chord Label	Figured Bass
dm	$\begin{matrix} \flat 6 \\ 5 \end{matrix}$
mm	$\begin{matrix} \flat 7 \\ \flat \end{matrix}$
Mm	$\begin{matrix} \flat 6 \\ \flat 5 \end{matrix}$
Mm	$\begin{matrix} 4 \\ 2 \end{matrix}$
Mm	$\begin{matrix} 4 \\ 3 \end{matrix}$
Mm	$\begin{matrix} \flat 7 \end{matrix}$
Mm	$\begin{matrix} 6 \\ 5 \end{matrix}$