Music Fundamentals 5: Triads, Chords, Introduction to Roman Numerals

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C O N N E X I O N S

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Chapter 1

Triads[1]

Harmony[2] in Western music[3] is based on triads. **Triads** are simple three-note chords[4] built of thirds[5].

1.1 Triads in Root Position

Triads in Root Position

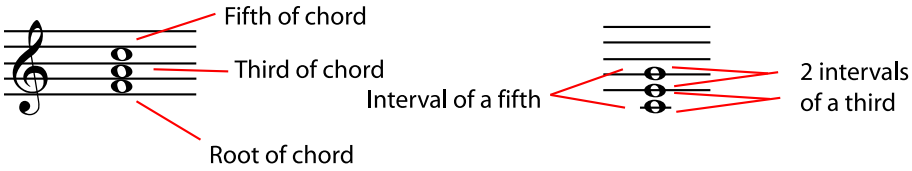

Figure 1.1

The chords in Figure 1.1 (Triads in Root Position) are written in root position, which is the most basic way to write a triad. In **root position**, the **root**, which is the note that names the chord, is the lowest note. The **third of the chord** is written a third[6] higher than the root, and the **fifth of the chord** is written a fifth[7] higher than the root (which is also a third higher than the third of the chord). So the simplest way to write a triad is as a stack of thirds, in root position.

> NOTE: The type of interval or chord - major, minor, diminished, etc., is not important when you are determining the position of the chord. To simplify things, all notes in the examples and exercises below are natural, but it would not change their position at all if some notes were sharp or flat. It would, however, change the name of the triad - see Naming Triads (Chapter 2).

[1] This content is available online at <http://cnx.org/content/m10877/2.18/>.
[2] "Harmony" <http://cnx.org/content/m11654/latest/>
[3] "What Kind of Music is That?" <http://cnx.org/content/m11421/latest/>
[4] "Harmony": Chords <http://cnx.org/content/m11654/latest/#l0b>
[5] "Interval" <http://cnx.org/content/m10867/latest/#p1b>
[6] "Interval", Figure 2: Simple Intervals <http://cnx.org/content/m10867/latest/#fig7c>
[7] "Interval", Figure 2: Simple Intervals <http://cnx.org/content/m10867/latest/#fig7c>

Exercise 1.1 *(Solution on p. 5.)*

Write a triad in root position using each root given. If you need some staff paper for exercises you can print this PDF file[8].

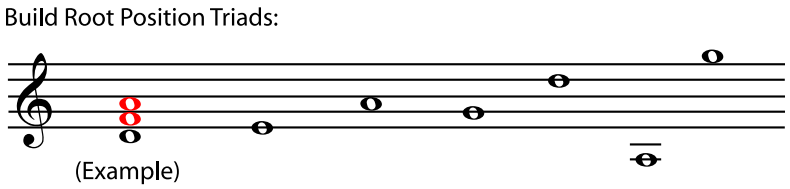

Figure 1.2

1.2 First and Second Inversions

Any other chord that has the same-named notes as a root position chord is considered to be essentially the same chord in a different **position**. In other words, all chords that have only D naturals, F sharps, and A naturals, are considered D major chords.

> NOTE: **But** if you change the pitch[9] or spelling[10] of any note in the triad, you have changed the chord (see Naming Triads (Chapter 2)). For example, if the F sharps are written as G flats, or if the A's are sharp instead of natural, you have a different chord, not an inversion of the same chord. If you add notes, you have also changed the name of the chord (see Beyond Triads[11]). **You cannot call one chord the inversion of another if either one of them has a note that does not share a name (for example "F sharp" or "B natural") with a note in the other chord.**

If the third of the chord is the lowest note, the chord is in **first inversion**. If the fifth of the chord is the lowest note, the chord is in **second inversion**. A chord in second inversion may also be called a **six-four chord**, because the intervals[12] in it are a sixth and a fourth.

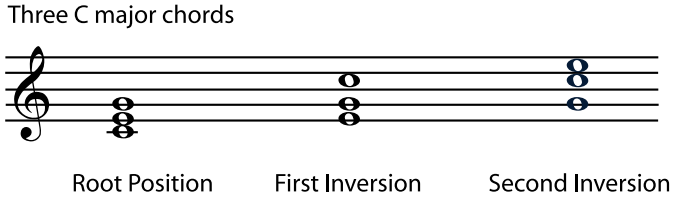

Figure 1.3

[8] See the file at <http://cnx.org/content/m10877/latest/staffpaper1.pdf>
[9] "Pitch: Sharp, Flat, and Natural Notes" <http://cnx.org/content/m10943/latest/>
[10] "Enharmonic Spelling" <http://cnx.org/content/m11641/latest/>
[11] "Beyond Triads: Naming Other Chords" <http://cnx.org/content/m11995/latest/>
[12] "Interval" <http://cnx.org/content/m10867/latest/>

It does not matter how far the higher notes are from the lowest note, or how many of each note there are (at different octaves or on different instruments); all that matters is which note is lowest. (In fact, one of the notes may not even be written, only implied by the context of the chord in a piece of music. A practiced ear will tell you what the missing note is; we won't worry about that here.) To decide what position a chord is in, move the notes to make a stack of thirds and identify the root.

Example 1.1

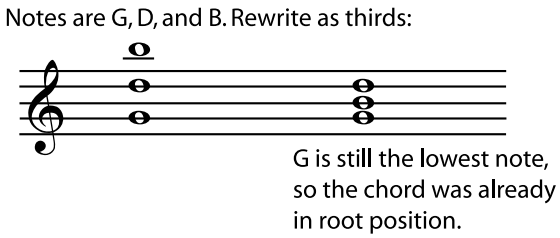

Figure 1.4

Example 1.2

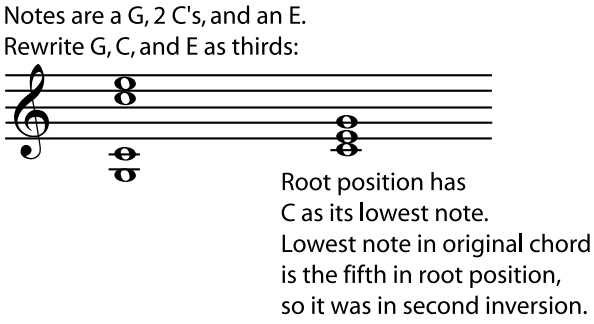

Figure 1.5

Exercise 1.2 ***(Solution on p. 5.)***

Rewrite each chord in root position, and name the original position of the chord.

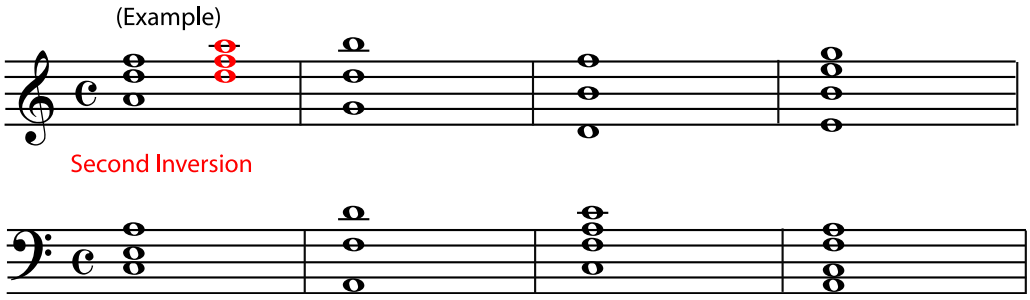

Figure 1.6

Solutions to Exercises in Chapter 1

Solution to Exercise 1.1 (p. 1)

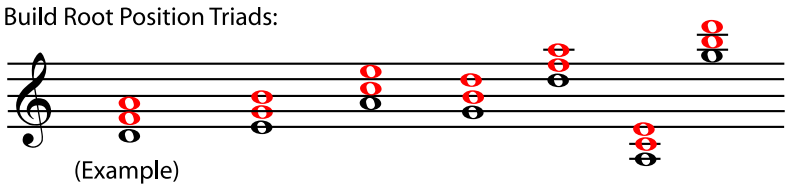

Figure 1.7

Solution to Exercise 1.2 (p. 3)

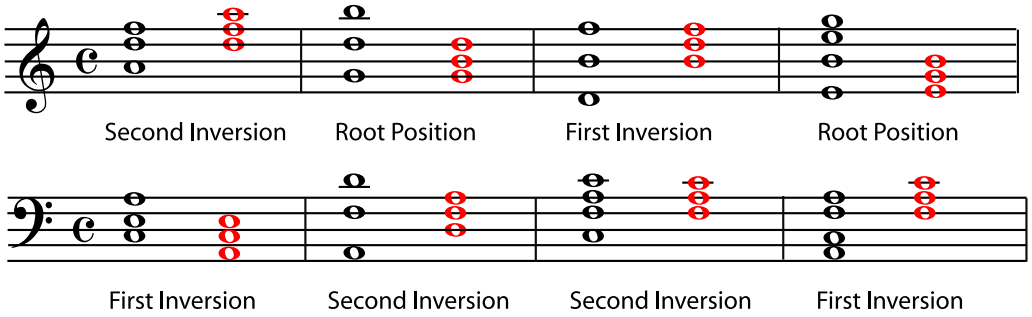

Figure 1.8

Chapter 2

Naming Triads[1]

The position (Chapter 1) that a chord is in does make a difference in how it sounds, but it is a fairly small difference. Listen[2] to a G major chord in three different positions.

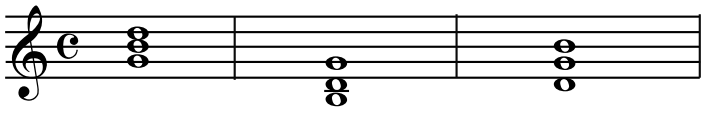

Figure 2.1: G major chord in three different positions.

A much bigger difference in the chord's sound comes from the intervals[3] between the root-position notes of the chord. For example, if the B in one of the chords above was changed to a B flat, you would still have a G triad (Chapter 1), but the chord would now sound very different. So chords are named according to the intervals between the notes when the chord is in root position (Chapter 1). Listen[4] to four different G chords.

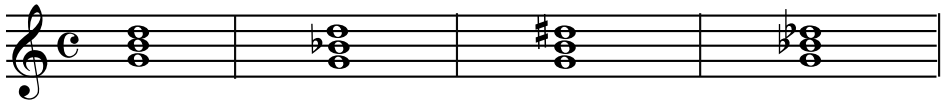

Figure 2.2: These are also all G chords, but they are four different G chords. The intervals between the notes are different, so the chords sound very different.

[1] This content is available online at <http://cnx.org/content/m10890/2.17/>.
[2] See the file at <http://cnx.org/content/m10890/latest/Inversions.MID>
[3] "Interval" <http://cnx.org/content/m10867/latest/>
[4] See the file at <http://cnx.org/content/m10890/latest/GChords.MID>

2.1 Major and Minor Chords

The most commonly used triads (Chapter 1) form major[5] chords and minor[6] chords. All major chords and minor chords have an interval[7] of a perfect fifth[8] between the root and the fifth of the chord (Chapter 1). A perfect fifth (7 half-steps) can be divided into a major third[9] (4 half-steps) plus a minor third[10] (3 half-steps). If the interval between the root and the third of the chord is the major third (with the minor third between the third and the fifth of the chord), the triad is a **major chord**. If the interval between the root and the third of the chord is the minor third (and the major third is between the third and fifth of the chord), then the triad is a **minor chord**. Listen closely to a major triad[11] and a minor triad[12].

Example 2.1

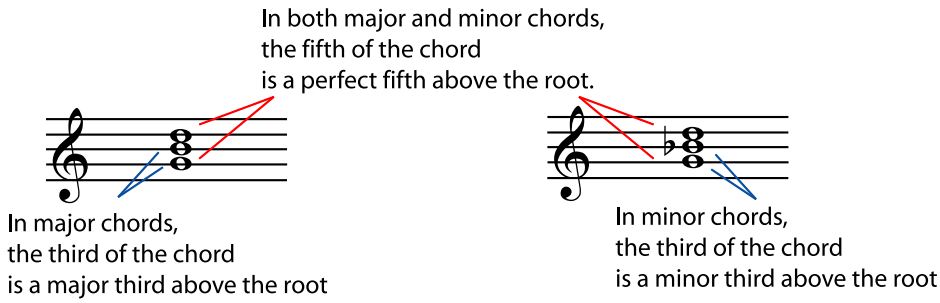

Figure 2.3

Example 2.2

[5] "Major Keys and Scales" <http://cnx.org/content/m10851/latest/>
[6] "Minor Keys and Scales" <http://cnx.org/content/m10856/latest/>
[7] "Interval" <http://cnx.org/content/m10867/latest/>
[8] "Interval" <http://cnx.org/content/m10867/latest/#p21b>
[9] "Interval": Major and Minor Intervals <http://cnx.org/content/m10867/latest/#list22a>
[10] "Interval": Major and Minor Intervals <http://cnx.org/content/m10867/latest/#list22a>
[11] See the file at <http://cnx.org/content/m10890/latest/chomj.mp3>
[12] See the file at <http://cnx.org/content/m10890/latest/chomin.mp3>

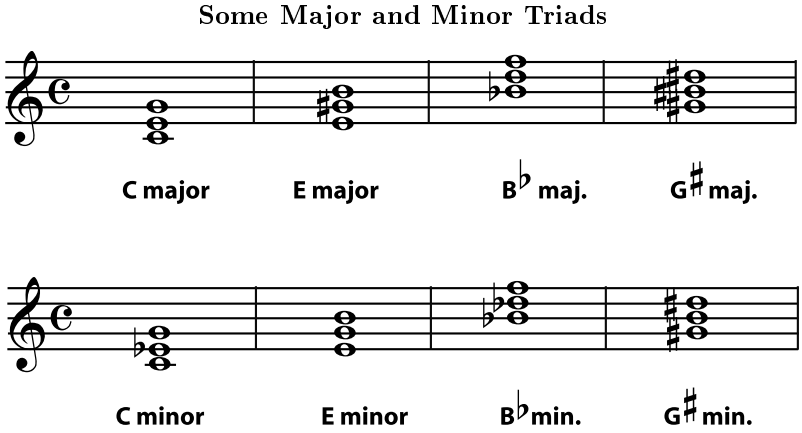

Figure 2.4

Exercise 2.1 *(Solution on p. 13.)*

Write the major chord for each root given.

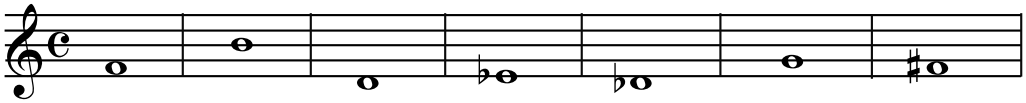

Figure 2.5

Exercise 2.2 *(Solution on p. 13.)*

Write the minor chord for each root given.

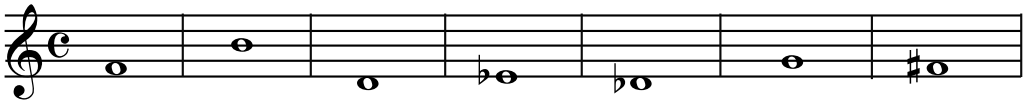

Figure 2.6

2.2 Augmented and Diminished Chords

Because they don't contain a perfect fifth, augmented and diminished chords have an unsettled feeling and are normally used sparingly. An **augmented chord** is built from two major thirds, which adds up to an

augmented fifth. A **diminished chord** is built from two minor thirds, which add up to a diminished fifth. Listen closely to an augmented triad[13] and a diminished triad[14].

Example 2.3

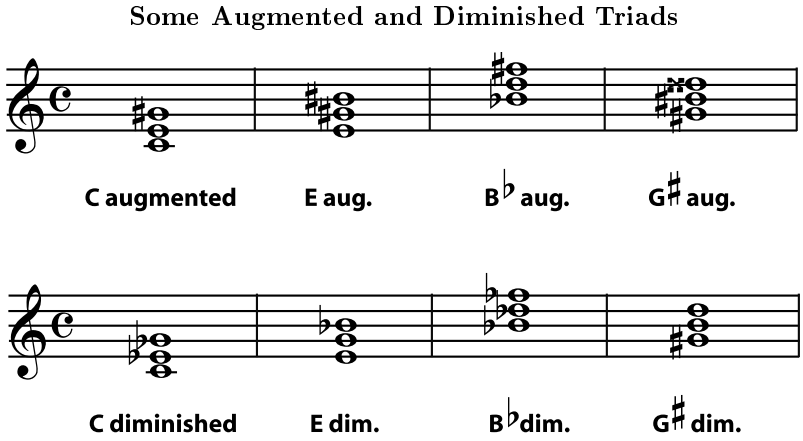

Figure 2.7

Exercise 2.3 *(Solution on p. 13.)*

Write the augmented triad for each root given.

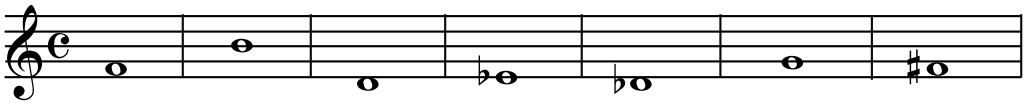

Figure 2.8

Exercise 2.4 *(Solution on p. 13.)*

Write the diminished triad for each root given.

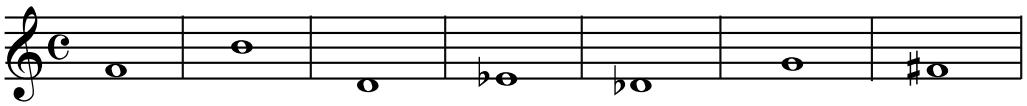

Figure 2.9

[13] See the file at <http://cnx.org/content/m10890/latest/choaug.mp3>
[14] See the file at <http://cnx.org/content/m10890/latest/chodim.mp3>

Notice that you can't avoid double sharps or double flats by writing the note on a different space or line. **If you change the spelling**[15] **of a chord's notes, you have also changed the chord's name.** For example, if, in an augmented G sharp major chord, you rewrite the D double sharp as an E natural, the triad becomes an E augmented chord.

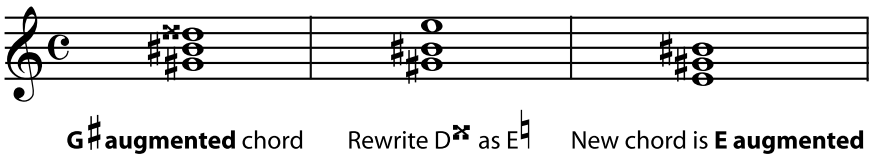

Figure 2.10: Changing the spelling of any note in a chord also changes the chord's name.

You can put the chord in a different position (Chapter 1) or add more of the same-named notes at other octaves without changing the name of the chord. But changing the note names or adding different-named notes, will change the name of the chord. Here is a summary of the intervals in triads in root position.

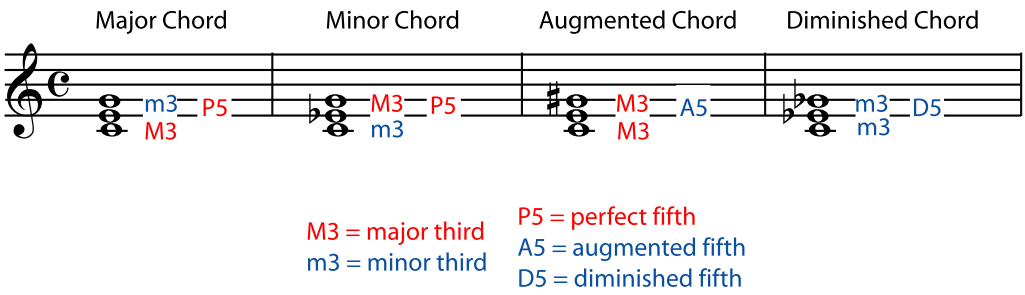

Figure 2.11

Exercise 2.5 ***(Solution on p. 13.)***

Now see if you can identify these chords that are not necessarily in root position. Rewrite them in root position first if that helps.

[15] "Enharmonic Spelling" <http://cnx.org/content/m11641/latest/>

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