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## *The Jazz Theory Book by Mark Levine*

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# CHAPTER ONE

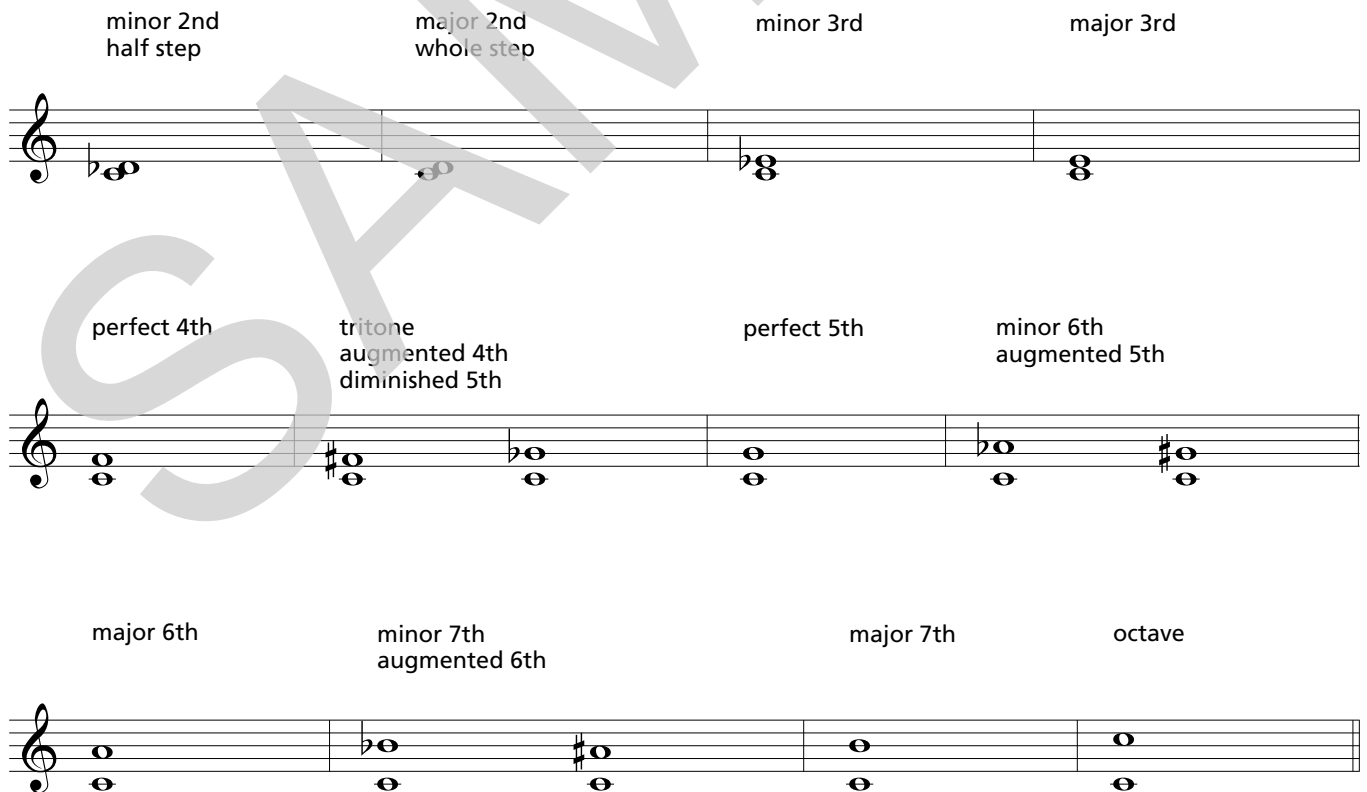
## *Basic Theory*

- *Intervals*
- *Inverting Intervals*
- *Triads*

### *Intervals*

As atoms are the building blocks of matter, intervals are the building blocks of melody and harmony. A good definition of an *interval* is "the space between two notes." **Figure 1-1** shows all the intervals from the smallest, the half step/minor 2nd, up to the octave, all based on middle C. The most commonly used term is shown above each interval; alternate terms are shown just below.

**Figure 1-1**





## Inverting Intervals

An important skill all musicians must have, especially when transposing,<sup>31</sup> is the ability to *invert* intervals. If you have to transpose a tune “up a major 6th” on the spot, you’ll probably find it easier to transpose it “down a minor 3rd,” which is the same thing. A 3rd is a lot closer than a 6th. In other words, you need to know that a major 6th inverts to a minor 3rd. When you invert an interval, you take the bottom note and put it on top, or vice versa. The result is a new interval, and the rules for inverting intervals are simple.

**Figure 1-2**

major 3rd      minor 6th      **major becomes minor**  
**3 + 6 = 9**

**Figure 1-3**

minor 2nd      major 7th      **minor becomes major**  
**2 + 7 = 9**

**Figure 1-4**

perfect 4th      perfect 5th      **perfect remains perfect**  
**4 + 5 = 9**

**Figure 1-5**

tritone      tritone      **tritone remains tritone**  
**4 1/2 + 4 1/2 = 9**

When you invert an interval

- Major becomes minor
- Minor becomes major
- Perfect remains perfect
- Tritone remains tritone<sup>32</sup>

and the old and new intervals add up to nine.

Look at **figure 1-2**. If you invert a major 3rd, C with E on top, it becomes E with C on top, a minor 6th. Major becomes minor, and three plus six add up to nine. In **figure 1-3**, a minor 2nd inverts to a major 7th. Minor becomes major, and two plus seven add up to nine. In **figure 1-4**, a perfect 4th becomes a perfect 5th. Perfect remains perfect, and four plus five equals nine. In **figure 1-5**, a tritone inverts to another tritone. Because a tritone is right between a 4th and a 5th, you could say that it is “four and a half,” and four and a half plus four and a half equals nine.

To really internalize this information, and have the sound of all the intervals in your head, you should sing the intervals as part of

your daily practice routine. You don’t need your instrument to do this (unless you’re a singer, of course), so you can practice in the shower, in your car, and

<sup>31</sup> Going from one key to another.

<sup>32</sup> And, if you use the alternate terms “augmented” and “diminished” as shown in **figure 1-1**, augmented becomes diminished, and diminished becomes augmented.

anywhere else you want. In addition, practice singing along with your favorite records—heads, melodies, solos, and so on, of standards, bebop, and other jazz tunes. As you do so, try to identify specific intervals between notes. This is all part of what's called *ear training*. If your school offers an ear training course, take it! There are also some good ear training tapes available.<sup>33</sup> You have to train your ears because creating a good solo consists largely of playing on your instrument what you “hear in your head.”

## Triads

You can play intervals not only individually, but also in combinations. For example, stacking two 3rds on top of one another forms a triad. There are four possible combinations, each forming a different triad:

- A major 3rd with a minor 3rd on top forms a major triad.
- A minor 3rd with a major 3rd on top forms a minor triad.
- Two minor 3rds form a diminished triad.
- Two major 3rds form an augmented triad.

Figure 1-6 shows all four triads.

Figure 1-6

Figure 1-6 illustrates the four triads on a treble clef staff:

- C major triad:** C4, E4, G4. Intervals: minor 3rd (C-E), major 3rd (E-G).
- C minor triad:** C4, B $\flat$ 3, E $\flat$ 4. Intervals: major 3rd (C-B $\flat$ ), minor 3rd (B $\flat$ -E $\flat$ ).
- C diminished triad:** C4, B $\flat$ 3, D $\flat$ 4. Intervals: minor 3rd (C-B $\flat$ ), minor 3rd (B $\flat$ -D $\flat$ ).
- C augmented triad:** C4, D $\sharp$ 4, F $\sharp$ 4. Intervals: major 3rd (C-D $\sharp$ ), major 3rd (D $\sharp$ -F $\sharp$ ).

Play each triad on the piano. Listen and feel the different emotional effect of each triad. In music for TV, movies, and the theater, harmony is often used to enhance the emotional content of a scene. A major triad may sound happy, strong, or triumphant. A minor triad may sound sad, pensive, or tragic. A diminished triad often suggests tension or agitation. An augmented triad has a floating, misty quality, suggesting, among other things, enchantment—like Bambi emerging from the mist at dawn (seriously).

<sup>33</sup> Jamey Aebersold, *Jazz Ear Training*. Armen Donelian, *Training The Ear*. David Baker, *A New Approach To Ear Training*



# The Major Scale and the II-V-I Progression

- Modes of the Major Scale
- The II-V-I Progression
- Voice Leading
- The Cycle of Fifths
- Other Common Chord Progressions
- The Locrian Mode and the Half-Diminished Chord
- Modal Jazz

**Figure 2-1****Figure 2-2****Figure 2-3**

Play the music shown in the first three figures and listen to the sound of the II-V-I progression.<sup>1</sup> **Figure 2-1** is a II-V-I in the key of E $\flat$  from Victor Young's "Stella By Starlight."<sup>2</sup>

**Figure 2-2** is a II-V-I in the key of D from Miles Davis' "Tune Up."<sup>3</sup>

**Figure 2-3** shows two II-V-I progressions from John Coltrane's "Giant Steps,"<sup>4</sup> the first in the key of G, the second in the key of B.

There are lots of chord progressions, but II-V-I is the most common chord progression jazz musicians play. The original source of the II, V, and I chords are the modes of the major scale.

<sup>1</sup> Sometimes notated as ii-V7-I.

<sup>2</sup> Miles Davis, *The Complete 1964 Concert*, Columbia.

<sup>3</sup> Miles Davis, *Cookin'*, Prestige, 1956.

<sup>4</sup> John Coltrane, *Giant Steps*, Atlantic, 1959.

Other good tunes to analyze include “All The Things You Are,” “Tune Up,” “Soul Eyes,” “I Thought About You,” “Satin Doll,” and “Perdido.” Again, ignore any and all alterations to the chords that you see— $\flat 9$ ,  $\#9$ ,  $\#11$ ,  $\flat 5$ ,  $\emptyset$ ,  $\flat 13$ , alt, and so forth. We’ll get to these soon.

### Voice Leading

In **figure 2-17**, notice that as you go from the II chord to the V chord to the I chord, the 7th of each chord resolves down a half step and becomes the 3rd of the next chord. This is basic *voice leading*. Voice leading is the direction a particular note wants to go. It’s almost as if there is a gravitational or magnetic pull on the 7th, urging it to resolve down a half-step. If you are a horn player improvising behind another horn player who’s playing the melody, playing the 7th and resolving it down a half step provides an instant background line for the soloist.

Play the music shown in **figure 2-18**, the third and fourth bars of Thelonious Monk’s

**Figure 2-17**

D-7      G7      CΔ

7th      3rd      3rd

7th resolves down a half step, becomes 3rd of next chord

II      V      I

**Figure 2-18**

E $\flat$ -7      A $\flat$ 7      B-7      E7      B $\flat$ -7      E $\flat$ 7

7th      3rd      7th      3rd      7th      3rd

**Figure 2-19**

G-7      C7      A $\flat$ -7      D $\flat$ 7

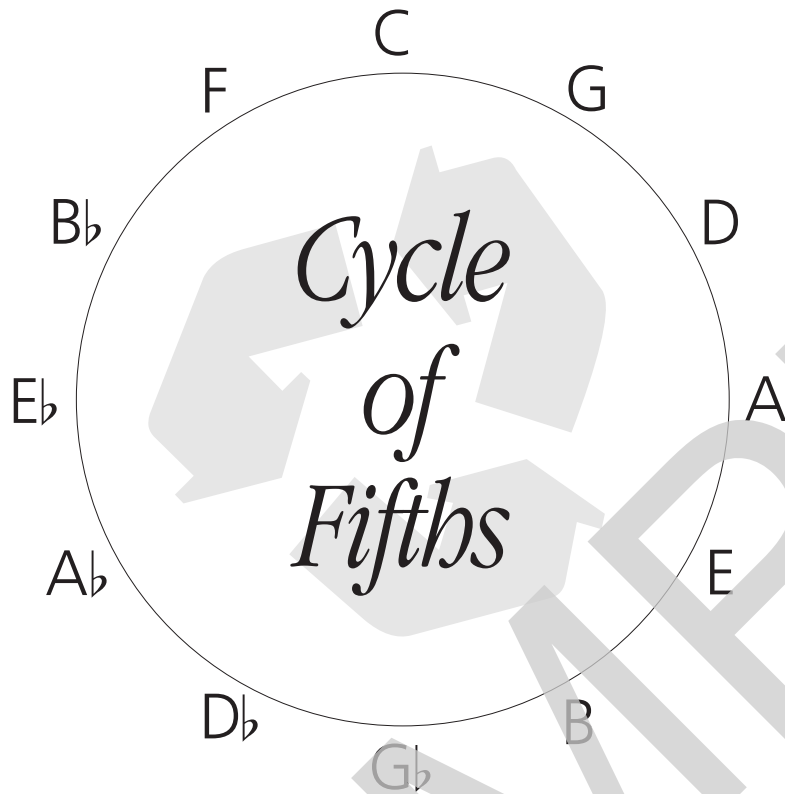
7th      3rd      7th      3rd

“Round Midnight.” Hear the 7th of each II chord resolve down a half step, becoming the 3rd of the V chord.

Play the music from **figure 2-19**. The top line is what Donald Byrd plays on two bars of II-V progressions on his tune “Low Life.”<sup>12</sup> Jackie McLean plays the lower line, resolving the 7th of each II chord down a half-step to the 3rd of each V chord.

<sup>12</sup> Donald Byrd, *Fuego*, Blue Note, 1959.

Figure 2-20



### The Cycle of Fifths

Go over the II-V-I progressions in every key and memorize them. When they learn something in every key, most jazz musicians use the *cycle of fifths*, as shown in **figure 2-20**.<sup>13</sup>

The cycle of fifths is an arrangement of all 12 notes of the chromatic scale, each note a 5th lower than the preceding one. As you go around the cycle, think of each note as representing a key, the key you're going to practice in next. Start with the key of C at the top of the circle, and move *counterclockwise* through the keys of F, B $\flat$ , E $\flat$ , and so on.<sup>14</sup>

You should use the cycle when you practice because it approximates real life. Most chord movement within tunes follows portions of the cycle. For instance, the roots of a II-V-I progression follow the cycle. In the key of C, the roots of the II-V-I (D-7, G7, C $\Delta$ ) are D, G, and C, which follow each other counterclockwise around the cycle. In F, the roots of the II-V-I (G-7, C7, F $\Delta$ ) are G, C, and F, and they, too, follow each other around the cycle.

**Figure 2-21** shows the changes for the first few bars of Jerome Kern's "All The Things You Are." Notice how the roots of the chords form fragments from around the cycle of 5ths.

Figure 2-21

F-7	B $\flat$ -7	E $\flat$ 7	A $\flat$ $\Delta$	D $\flat$ $\Delta$	D-7	G7	C $\Delta$
F.....	B $\flat$ .....	E $\flat$ .....	A $\flat$ .....	D $\flat$	D.....	G.....	C
chords follow the cycle of 5ths from F to D $\flat$ .....				and then from D to C			

<sup>13</sup> The cycle of fifths is also known as "the circle of fourths."

<sup>14</sup> Classical musicians are often taught the cycle clockwise. Jazz musicians prefer using the cycle counterclockwise because the movement from note to note (C, F, B $\flat$ , and so on), follows the roots of the II-V-I progression (as in C-7, F7, B $\flat$  $\Delta$ ).