Some Basics of Harmony for Jazz

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Scale Degrees
- Relative pitches in a scale are given names based on their ordinal position in the major scale, e.g. tonic, 2nd, 3rd, 4th, 5th, 6th, 7th, octave, 9th, 10th, 11th, 13th
- Examples:
  - Key of C: tonic = C, 2nd = D, 3rd = E, 4th = F, 5th = G, 6th = A, 7th = B, 9th = D
  - Key of Eb: tonic = Eb, 2nd = F, 3rd = G, 4th = Ab, 5th = Bb, 6th = C, 7th = Db, 9th = F

Rule of 7
- Note that the pitches repeat an octave higher with 7 added to the scale degree.
- Example: 9th is the same as 2nd, 11th is the same as 4th, 13th is the same as 6th.
- A tone is more-or-less interchangeable with 7+ the tone, although there are some cases where one or the other is preferred.
- Some tones above the octave aren’t used very often, e.g. 12th, 14th

OGA (On-Going Activity) #1
(to be learned over a period of time)
- Become able to name, quickly, the pitch for a specified scale degree in any key.
- Examples:
  - 5th of F? C
  - 6th of Bb G
  - 4th of Ab Db
  - 7th of C# C (B# actually, but see next)
- You will need these to help “think on your feet” in jazz soloing.

Enharmonics Issue
- Rather than being strictly formal about the names of pitches, you may think about them as you would think about them on your horn (= instrument), e.g.
  - C-flat = B
  - B-double-flat = A
  - Gb = F#
  - etc.
- Use whatever works the most easily for you.

OGA #1 footnote
- Order of importance of scale degrees:
  - 4th
  - 5th
  - 3rd
  - 7th
  - 6th = 13th
  - 2nd = 9th
- It will become clear why shortly.
**OGA #2**

- Become able to name the ordinal position for a specified tone in any key.
- This is the “inverse” of OGA #1.
- Examples:
  - G in F? 2nd
  - A in C? 6th
  - E in B? 4th
- Suggestion: Make some flashcards and go over OGA #1 and #2 with a friend.

**Numeric Terminology**

- Musical terminology is “overloaded”: the same term can sometimes mean more than one thing.
- Example: “third” can mean the scale degree we just discussed (3rd tone of a major scale), or it can mean the interval of a third, to be discussed next. These are related, but actually have different meanings.

**Intervals**

(This discussion is based on an equal-temperament scale.)

- 1 half-step = 1 semi-tone = 1 chromatic interval, e.g. the interval between C and C#
- 1 octave = 12 half-steps
- Intervals of different numbers of half-steps have standard names
  - 2 half-steps = “major 2nd” (e.g. between C and D)
  - 1 half-step = “minor 2nd” (e.g. between E and F)

**Intervallic Pattern**

- The major scale is:
  - W W H W W W H
- Notice that almost every step is W except for two that are H.
- By remembering the position of the H’s, we can remember the scale pattern.
- In the major scale, H occurs between 3 and 4, and between 7 and 8.

**Contrasting Scale Patterns**

- The "Lydian" scale (or “mode”), often used in jazz, is:
  - W W H W W H
- Lydian has a sound that is closer to major, but said to be "brighter".
- H occurs between 4 and 5, and between 7 and 8.
- Another mnemonic is that Lydian is like major, except that the 4th is raised one half step.
- Yet another mnemonic is that the Lydian is like a major scale started on the 4th ordinal tone (rotates the pattern).
Lydian vs. Major

C major scale

C lydian scale

= G major scale started on the fourth

Major Second Interval

Interval of two half-steps:

e.g. F-G

W

Minor Second Interval

Interval of one half-step:

e.g. E-F

Major Third Interval

Interval of four half-steps:

e.g. F-G, G-A

W + W

Minor Third Interval

Interval of three half-steps:

e.g. E-F, F-G

H + W

Perfect Fourth Interval

Interval of five half-steps:

G-A, A-B, B-C

i.e. W+W+H
Perfect Fifth Interval

Interval of seven half-steps:
F-G, G-A, A-B, B-C
i.e. W+W+W+H

Tritone Interval

Interval of six half-steps, or three whole steps:
F-G, G-A, A-B
i.e. W-W+W
Also called "augmented fourth" and "diminished fifth".

Augmented Fifth Interval

Interval of eight half-steps:
E-F, F-G, G-A, A-B, B-C
i.e. H+W+W+W+H
Also called "minor sixth".

Major Sixth Interval

Interval of nine half-steps:
F-G, G-A, A-B, B-C, C-D
i.e. W+W+W+H+W

Minor Seventh Interval

Interval of ten half-steps:
D-E, E-F, F-G, G-A, A-B, B-C
i.e. W+H+W+W+H+W
= Octave - whole-step

Major Seventh Interval

Interval of 11 half-steps:
F-G, G-A, A-B, B-C, C-D, D-E
i.e. W-W+W+H+W+W
= Octave - half-step
Major Ninth Interval
Octave + Major 2nd

Minor Ninth Interval
Octave + Minor 2nd

Eleventh Interval
Octave + Perfect Fourth

Raised Eleventh Interval
Octave + Augmented Fourth

Thirteenth Interval
Octave + Major Sixth

OGA #3
- Get acquainted with the sound of as many different intervals as possible.
- Be able to recognize them when played sequentially and when played simultaneously.
- Learn to recognize intervals you hear in familiar songs and associate them with their name.
Inversions

- The inversion of an interval is the interval with the upper note dropped an octave.
- Since an octave is 12 half-steps: half-steps in inversion = 12 - half-steps in interval
- Knowing inversions can be helpful in remembering important things about intervals.

Inversion Facts

<table>
<thead>
<tr>
<th>Interval</th>
<th>Inversion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perfect Fifth</td>
<td>Perfect Fourth</td>
</tr>
<tr>
<td>Major Third</td>
<td>Minor Sixth</td>
</tr>
<tr>
<td>Minor Third</td>
<td>Major Sixth</td>
</tr>
<tr>
<td>Minor Second</td>
<td>Major Seventh</td>
</tr>
<tr>
<td>Major Second</td>
<td>Minor Seventh</td>
</tr>
<tr>
<td>Tritone</td>
<td>Tritone</td>
</tr>
</tbody>
</table>

If A is the inversion of B, then B is the inversion of A.

Circle of Fifth
(aka Circle of Fourths)

- By repeatedly descending by a fifth, or ascending by a fourth:
  - You arrive back at the starting point.
  - You cover all tones in the chromatic scale.
- C F Bb Eb Ab Db Gb B E A D G C  C# F#
- This has to be memorized eventually.

OGA #4

- Memorize the circle of fifths.

Chords

- Chords are sets of tones.
- Chords provide a guide for the improvised melody line.
- Chords are named based on the intervals found within them, or on their position with respect to certain scales.

Triads

- Three-note chords are called “triads”.
- Triads aren’t used too much by themselves in modern jazz, but are important because they may be remembered as parts of or bases for more complex chords.
***Major Triad***

A Major Triad is **named** by the name of the **root**, usually capitalized.

**Root**

**Name**

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***Minor Triad***

A minor triad is designated by the name of the **root**, followed by lower-case "m" or "-".

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**OGA #5**

- Learn to distinguish between major and minor triads by ear.
- Learn to play all 12 major and minor triads on your instrument and on the piano.

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**Major Seventh Chords**

Instead of FM7, we also commonly see Fmaj7, and FA.
Note that this chord “contains” both a major and a minor triad.

Major Seventh Chord Family

- An upper-case note name by itself is a chord of major character, but usually is interpreted as a major seventh chord, or one of its variants:
  - major ninth
  - major six-nine
- The word major is very important here. Simply seventh chord means something else (a dominant seventh chord, discussed later).

The Sound of a Major Seventh Chord

- This chord has a very stable sound.
- It also has a somewhat “cool” sound.
- It usually occurs at the beginning or end of a phrase, and often signals that the corresponding key is established.

Songs with lots of Major Seventh Chords

- “Forest Flower” by Charles Lloyd opens with 4 major seventh chords in a row: A, G, C, Bb
- “All the Things You Are”, a standard, has 6 major seventh chords (that’s half the 12 that are possible).
- “Summer in Central Park” by Horace Silver has 6 major seventh chords: F, Db, Gb, D, A, Ab
- “Majority” in the book consists of 4 major seventh chords: Bb, Ab, Eb, Db.

Sixth and Ninth

- The sixth and ninth “go along for the ride”.
- They can be somewhat freely added to or removed from a major seventh chord in most cases.
- Usually the seventh and ninth are sounded (major ninth chord), but the sixth and ninth are often used without the seventh (major six-nine chord)

Major Seventh Family

FM7  FM9  F69
OGA #6
- For each additional chord type that is introduced, learn to play the chord on the piano, in as many keys as possible.

OGA #7
- For each chord type that is introduced, learn to recognize a chord of that quality when it is played or implied in the music to which you are listening or playing.

Chords, Melody, and Scales
- The chord indicates notes that can be emphasized in the melody.
- Moreover, a chord often implies a scale that indicates additional notes that can be used in the melody. (Sometimes there is a choice of several scales.)
- Because chords and scales are linked in this way, we call the combination a chord/scale.

Scale for the Major Seventh Chord and "avoid" tone
- A common scale choice for the major seventh is the corresponding major scale, e.g. F major scale for F major seventh chord.
- The fourth degree of the scale in the case of the major scale is called an "avoid tone", meaning that it should not end a phrase as if it were a stable tone.
- It is ok to use avoid-tones in passing.

The raised 4th
- The raised 4th can often be used where the fourth is an avoid tone.
- In other words, this would actually be suggesting the Lydian scale, which can be a better scale choice for a major seventh chord in some cases.
- The composer can indicate this intent by designating the chord as a Maj7#4 or Maj7#11, but this might not appear in older music.

More on Tone Avoidance
- The root of the major scale should also be avoided by the soloist as a long held tone, as it will likely conflict with the major seventh being played by the comping instrument.
- The root can also be fairly boring in the melody.
- Certain chromatic tones should be similarly avoided, as they imply different chords and even different keys.
Goal Tones (Shelton Berg)

- The tones to be emphasized when playing over a major chord/scale are, in order of preference (use your judgement):
  - 3rd and major seventh
  - fifth and root
  - sixth and ninth
  - The raised fourth can be used with discretion (Lydian sound).
  - The raised fifth can be used in passing ("major bebop scale").

Tone Imagery for Major Scale
(Use what works for you)

- Root and fifth have a "basic" sound.
- Third, major seventh, raised fourth, and raised fifth have a "cool" sound.
- Sixth and ninth have a "pastel" sound.
- Fourth and flatted ninth are avoided, except in passing.
- (Flatted seventh, third, and ninth have a "bluesy" sound, but if you emphasize them, you aren't really playing a major chord).

Chord Voicing

- On a comping instrument, the tones are not always played in order, e.g. 1-3-5-7-9.
- Repeatedly doing this can give an un-cool or un-refined sound.
- For example, a major seventh chord will often be played 1-7-3-5, where the 3 and 5 are an octave up.
- Such choices are called chord voicing.

Voice Leading

- When several different chords are played in a sequence, the voicings of the chords is often chosen so that there is little movement in the upper (non-bass) positions.
- This is called "voice leading".
- Voice leading allows the listener to enjoy certain expected chord resolutions.
- More on this topic later.

Muddy vs. Thin Voicings

- If tones, other than the bass, are voiced too low on the piano, a "muddy" sound results.
- If tones are voice too high, a "thin" sound results.
- A good rule is that the lowest note in the voicing, aside from the bass, should be in the octave below middle C and the highest note should be in the octave above.

Voicings

- There will be more on voicings in a separate document.