Roman Numeral Notation

Bob Keller

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Why?

• We want a way to describe chord progressions.
• We’d like to be able to understand the function of various chords.
• We’d like it to be independent of specific keys.
The Tones of a scale can be numbered 1, 2, 3, ...

Using each tone as a root, we can build a chord using tones in the scale: I, II, III, ...

The tones are usually 1-3-5 and possible 7 relative to the scale tone as root.
Variations in Notation

- There are several different conventions, but we use this one:
  - Use upper case roman numerals for major and dominant
  - Use lower case roman numerals for minor and diminished
  - Add markings to indicate modification of the chord from its native form.
## Triads Built on Tones in the Major Scale

<table>
<thead>
<tr>
<th>Chord</th>
<th>Quality</th>
<th>Tones of scale</th>
<th>In key of C</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Major</td>
<td>1 3 5</td>
<td>C</td>
</tr>
<tr>
<td>ii</td>
<td>Minor</td>
<td>2 4 6</td>
<td>Dm</td>
</tr>
<tr>
<td>iii</td>
<td>Minor</td>
<td>3 5 7</td>
<td>Em</td>
</tr>
<tr>
<td>IV</td>
<td>Major</td>
<td>4 6 1</td>
<td>F</td>
</tr>
<tr>
<td>V</td>
<td>Major</td>
<td>5 7 2</td>
<td>G</td>
</tr>
<tr>
<td>vi</td>
<td>Minor</td>
<td>6 1 3</td>
<td>Am</td>
</tr>
<tr>
<td>vii</td>
<td>Diminished</td>
<td>7 2 4</td>
<td>Bdim</td>
</tr>
</tbody>
</table>
Tetrads Built on Tones in the Major Scale

<table>
<thead>
<tr>
<th>Chord</th>
<th>Quality</th>
<th>Tones of scale</th>
<th>In key of C</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Major-Seventh</td>
<td>1 3 5 7</td>
<td>C Maj 7</td>
</tr>
<tr>
<td>ii</td>
<td>Minor-Seventh</td>
<td>2 4 6 1</td>
<td>Dm7</td>
</tr>
<tr>
<td>iii</td>
<td>Minor-Seventh</td>
<td>3 5 7 2</td>
<td>Em7</td>
</tr>
<tr>
<td>IV</td>
<td>Major-Seventh</td>
<td>4 6 1 3</td>
<td>F Maj 7</td>
</tr>
<tr>
<td>V</td>
<td>Dominant-Seventh</td>
<td>5 7 2 4</td>
<td>G7</td>
</tr>
<tr>
<td>vi</td>
<td>Minor-Seventh</td>
<td>6 1 3 5</td>
<td>Am7</td>
</tr>
<tr>
<td>vii</td>
<td>Half-Diminished</td>
<td>7 2 4 6</td>
<td>Bm7b5</td>
</tr>
</tbody>
</table>

In jazz, most chords are at least tetrads, so we will use these roman numerals, even though they might mean triads in another context.
Typical Chord Functions

- I is the main “resting point” for a major key
- iii and vi are typical substitutes for I:
  - iii is used to indicate a temporary resting point
  - vi is used as a “point of departure” from I
- V is used to lead into I
- IV may lead to V, or may establish a new key
- ii typically leads to V, but may revert to I
- vii has very specialized uses. It may substitute for V.
Typical Jazz Chord Motions within a Major Key

Thickness of line indicates how common this motion is.
Very Common Jazz Progressions

- V - I
- ii - V
- ii - V - I
- vi - ii - V - I
- iii - vi - ii - V
- iii - vi - ii - V - I
- I - ii - iii - ii - I
Modifications

- Not all chords built on a given root have the native quality indicated.

- Example:
  We may choose to use a dominant seventh built on 1 even though the native chord is a major seventh.

- We would note this as:
  \[ I^7 \text{ (e.g. C}^7) \]
Typical Functions of Modified Chords

• These chords often serve a “secondary” harmonic function, such as a cadence to a chord other than the root in the key.

• Example:
  \[ I^7 \rightarrow IV \] e.g. in C: \[ C^7 \rightarrow F \]
  \[ C^7 \] is the V chord of the key of F

• This is more graceful than jumping directly from I to IV.

• This is called a secondary dominant.
Modifications (2)

- We may choose to use a *minor* seventh built on 5 even though the native chord is a *dominant* seventh.
- We would note this as: \( V_m^7 \) (e.g. \( G_m^7 \))
- We can combine this with with the previous: \( V_m^7 - I^7 - IV \) (e.g. \( G_m^7 \ C^7 \ F \))
  \[ = \ ii - V - I \text{ relative to IV} \]
- This is called a “turnaround to IV”.