Compendium

of Voice-Leading Patterns from the 17th and 18th Centuries to Play, Sing, and Transpose at the Keyboard

Compiled by Derek Remeš

Music Hochschule - Lucerne, Switzerland

Version: February 5, 2021

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Thoroughbass Abbreviations and the Figures to Add

The most common figures are in bold boxes.

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<th>3-voice Figuring</th>
<th>2-voice Figuring</th>
</tr>
</thead>
<tbody>
<tr>
<td>8/5/3</td>
<td>5/3 or 8/3</td>
<td>3</td>
</tr>
<tr>
<td>8/6/3 or 6/6/3 or 6/3/3</td>
<td>6/3</td>
<td>6</td>
</tr>
<tr>
<td>8/6/4</td>
<td>6/4</td>
<td>none</td>
</tr>
<tr>
<td>7/5/3 or 8/7/3</td>
<td>7/3</td>
<td>7</td>
</tr>
<tr>
<td>6/5/3</td>
<td>6/5</td>
<td>none</td>
</tr>
<tr>
<td>6/4/3</td>
<td>none</td>
<td>none</td>
</tr>
<tr>
<td>6/4/2</td>
<td>4/2</td>
<td>2</td>
</tr>
<tr>
<td>8/5/4</td>
<td>5/4</td>
<td>none</td>
</tr>
<tr>
<td>9/5/4</td>
<td>9/4</td>
<td>none</td>
</tr>
<tr>
<td>9/7/3</td>
<td>9/7</td>
<td>none</td>
</tr>
</tbody>
</table>

What figures to play in four-, three-, and two-voice textures

Graphic based on:
David Kellner, *Treiblicher Unterricht im General-Bass* (1732, 28)
Simple Cadences in Two Voices

Bass scale degrees are indicated with 1, 2, etc. Upper voices are indicated with 1, 2, etc. "Simple" means "only consonances." Consonant intervals are unison, 3, perfect 5, and 8. The unison, perfect 5, and 8 are perfect consonances; 3 and 6 are imperfect consonances. A simple cadence in two voices requires the tenor and discant clausulae. Clausulae are stereotypical melodic segments used to make various kinds of cadences. The tenor clausula (TC) uses the degrees 3 2 1, and is always colored green here. The discant clausula (DC) uses the degrees 1 7 1, and is always colored red here. Clausulae maintain their names regardless of which voice they are placed in. For example, the discant clausula could be placed in the top, middle, or lowest voice. Traditionally the three pitches in clausulae are named Ultima (ULT), Penultima (PEN), and Antepenultima (ANT), meaning "last," "2nd-to-last," and "3rd-to-last," respectively.

In minor-key cadences, the seventh degree must be chromatically raised to make a leading tone: 7.

In practice, the tenor clausula may also begin on 1 or end on 3, but always has 2 at PEN. Below are all eight possible simple cadences in two voices. The discant clausula is always the same.
Simple Cadences in Three Voices

A simple cadence in three voices adds the bass clausula (1 5 1) to the TC/DC pair. Unlike the other clausulae, the bass clausula may only appear in the bass voice. All four versions of the tenor clausulae are possible (see bottom of page three). Thoroughbass figures are included between the staves. Thoroughbass figures indicate the intervals of the upper parts as measured from the bass. The ordering of the figures does not always correspond to the ordering of the upper voices. A "spacing" or "position" indicates the starting interval between the outer voices.

With inverted upper voices:

<table>
<thead>
<tr>
<th>Octave Spacing</th>
<th>Third Spacing</th>
</tr>
</thead>
<tbody>
<tr>
<td>major keys</td>
<td></td>
</tr>
<tr>
<td>C: 1 5 1</td>
<td>1 5 1</td>
</tr>
<tr>
<td>bass clausula</td>
<td>bass clausula</td>
</tr>
<tr>
<td>ANT PEN Ult</td>
<td>ANT PEN Ult</td>
</tr>
</tbody>
</table>

In minor-key cadences, the seventh degree must be chromatically raised to make a leading tone. Accidentals in thoroughbass refer to a third above the bass (i.e. here G becomes G#).

With inverted upper voices:

<table>
<thead>
<tr>
<th>Octave Spacing</th>
<th>Third Spacing</th>
</tr>
</thead>
<tbody>
<tr>
<td>minor keys</td>
<td></td>
</tr>
<tr>
<td>a: 1 5 1</td>
<td>1 5 1</td>
</tr>
<tr>
<td>bass clausula</td>
<td>bass clausula</td>
</tr>
<tr>
<td>ANT PEN Ult</td>
<td>ANT PEN Ult</td>
</tr>
</tbody>
</table>
Simple Cadences in Four Voices

A simple cadence in four voices adds the alto clausula (5 5 5) to the three-part cadence. As before, the upper voices can be inverted to create the different spacings based on the starting interval. The parts in a four-voice texture are named (from top down): soprano (or discant), alto, tenor, and bass. These names are used even when the composition is for one or more instruments (not singers). In practice, composers usually preferred not to end a piece with the fifth in the top voice.

In minor-key cadences, the seventh degree must be chromatically raised to make a leading tone. Accidentals in thoroughbass refer to a third above the bass (i.e. here G becomes G#).

In practice, baroque composers saved time in two ways: (1) rather than indicate the order of the upper voices via the figures (as above), composer would simply write the figures from highest to lowest and let the player "realize" the spacing as desired; (2) composers would abbreviate figures. Learn the abbreviations by using the tables on page two. For instance, if 8/5/3 were written, the player could realize this in the octave, third, or fifth spacing. But the 5/3 chord was so common that if nothing was written, the player assumed a 5/3 chord and realized the figure in as many or as few voices as required by the situation at hand.
Compound Cadences in Two Voices

“Compound” means that there is a dissonance in the form of a syncopatio (i.e. suspension). Whereas the modern term “suspension” implies the delay of a chord tone, the historical term “syncopatio” implies the syncopated delay of an interval. In the baroque era, the two-voice cadence occurred most often with a syncopatio dissonance. The syncopatio dissonance arises by “delaying” the arrival of 7 in the discant clausula. This delay splits the PEN position into two parts, which is where the name “compound” comes from.

A syncopatio has 3 parts: (1) consonant preparation, (2) dissonant “clash,” and (3) consonant resolution. After Giovanni Artusi (c.1540-1613), the tied (“delayed”) voice is the patient, the moving voice the agent. In a cadence, the discant clausula is always the patient, while the tenor clausula is always the agent. Memory aid: the patient is passive (tied); the agent is active (it moves to make the dissonant “clash”).

Here are the same eight two-voice cadences as on page three, but with syncopatio dissonances. Sometimes a dash between two thoroughbass figures indicates the resolution of a syncopatio.
Compound Cadences in Three Voices

This compound cadence has a 5/4-chord at PEN. The dissonant 4 in a 5/4 chord must always be prepared.

```
<table>
<thead>
<tr>
<th>Major Keys</th>
<th>Octave Spacing</th>
<th>Third Spacing</th>
<th>Minor Keys</th>
<th>Octave Spacing</th>
<th>Third Spacing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(6) 5 4 3</td>
<td>(6) 5 4 3</td>
<td></td>
<td>(6) 5 4 3</td>
<td>(6) 5 4 3</td>
</tr>
</tbody>
</table>

C: 1 3 5 1
a: 1 3 5 1
```

Compound cadence with 6/5

This compound cadence has a 6/5 chord at PEN. Only the bass is different from the 5/4 version. This bassline is considered a variant on the bass clausula, since it still ends with 5 1. The 5 in a 6/5 chord acts like a dissonance, even though it is a consonant perfect 5. Thus, if the 5 can be prepared (tied by common tone), it should be. Ironically the dissonant diminished 5 may enter unprepared in a 6/5 chord, though.

```
<table>
<thead>
<tr>
<th>Major Keys</th>
<th>Octave Spacing</th>
<th>Third Spacing</th>
<th>Minor Keys</th>
<th>Octave Spacing</th>
<th>Third Spacing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(6) 5 3</td>
<td>(6) 5 3</td>
<td></td>
<td>(6) 5 3</td>
<td>(6) 5 3</td>
</tr>
</tbody>
</table>

C: 1 3 4 5 1
a: 1 3 4 5 1
```

Compound cadence with 6/4

The compound cadence with 6/4 "syncopates" the TC, resulting in a double syncopatio with the DC. Though the 4 is a dissonance, it may enter unprepared in a 6/4 chord (see page ten).

```
<table>
<thead>
<tr>
<th>Major Keys</th>
<th>Octave Spacing</th>
<th>Third Spacing</th>
<th>Minor Keys</th>
<th>Octave Spacing</th>
<th>Third Spacing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(6) 4 3</td>
<td>(6) 4 3</td>
<td></td>
<td>(6) 4 3</td>
<td>(6) 4 3</td>
</tr>
</tbody>
</table>

C: 1 3 5 1
a: 1 3 5 1
```
This compound cadence adds the alto clausula to the three-part compound cadence with 5/4. You may also syncopate the entry of the red discant clausula. Small bass notes are optional. As noted already, the 4 must be prepared in a 5/4 chord, but not in a 6/4 chord.

**major keys**

<table>
<thead>
<tr>
<th>octave spacing</th>
<th>third spacing</th>
<th>fifth spacing</th>
</tr>
</thead>
<tbody>
<tr>
<td>(6) 5 3</td>
<td>(6) 2 3</td>
<td>(6) 5 3</td>
</tr>
</tbody>
</table>

C: ① ③ ⑤ ①

**minor keys**

<table>
<thead>
<tr>
<th>octave spacing</th>
<th>third spacing</th>
<th>fifth spacing</th>
</tr>
</thead>
<tbody>
<tr>
<td>(6) 5 #</td>
<td>(6) 2 #</td>
<td>(6) 5 #</td>
</tr>
</tbody>
</table>

a: ① ③ ⑤ ①
This compound cadence adds the blue voice to the three-part compound cadence with 6/5. This is considered a variant on the alto clausula because it still ends with $5 \ 5$. In reality, the alto and bass clausulae are flexible filler voices to the DC/TC pair. You may also syncopate the entry of the red discant clausula. Small bass notes are optional. As noted already, the 5 in a 6/5 chord should be prepared, if possible. (The perfect 5 must be prepared, but the diminished 5 may enter unprepared in a 6/5 chord.)

**Compound Cadences with 6/5 in Four Voices**

**major keys**

<table>
<thead>
<tr>
<th>octave spacing</th>
<th>third spacing</th>
<th>fifth spacing</th>
</tr>
</thead>
<tbody>
<tr>
<td>C: 1 3 4 5 1</td>
<td>6 5</td>
<td>6 5</td>
</tr>
</tbody>
</table>

**minor keys**

<table>
<thead>
<tr>
<th>octave spacing</th>
<th>third spacing</th>
<th>fifth spacing</th>
</tr>
</thead>
<tbody>
<tr>
<td>a: 1 3 4 5 1</td>
<td>6 5 #</td>
<td>6 5 #</td>
</tr>
</tbody>
</table>

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Compound Cadences with 6/4 in Four Voices

This compound cadence adds the alto clausula to the three-part compound cadence with 6/4. You may also syncopate the entry of the DC and TC, as on page seven. Small bass notes are optional.

**major keys**

**octave spacing**

\[
\begin{array}{c|c|c}
\text{C:} & 1 & 3 \\
\end{array}
\]

**third spacing**

\[
\begin{array}{c|c|c}
3 & 5 & 1 \\
\end{array}
\]

**fifth spacing**

\[
\begin{array}{c|c|c}
& 1 & 3 \\
\end{array}
\]

Though the 4 is a dissonance, it may enter unprepared in a 6/4 chord, but not in a 5/4 chord.

**minor keys**

**octave spacing**

\[
\begin{array}{c|c|c}
a: & 1 & 3 \\
\end{array}
\]

**third spacing**

\[
\begin{array}{c|c|c}
3 & 5 & 1 \\
\end{array}
\]

**fifth spacing**

\[
\begin{array}{c|c|c}
& 1 & 3 \\
\end{array}
\]

Perfect 5ths may move to dim. 5ths. But dim. 5ths are a dissonance and need to resolve to a third. Thus, dim. 5ths do not usually progress to perfect 5ths, but this is nevertheless allowable if (1) it is not in the outer voices and (2) there are three or more voices.

parallel fifths can be avoided thus:

parallel fourths invert to parallel fifths!
Double Cadences in Three Voices

A double cadence combines the simple and compound cadences, as shown in the first example. There are two main types of double cadences: with 5/4 and with 6/5 (depending on the bassline). Memory aid: one voice always has the "syncopated" DC preceded by an extra 7: 7 1 7 1.

Here the Drst pitch of the TC is changed, making a 7 chord. The final bassline below is also slightly different.
Double Cadences in Four Voices

This version merely adds the flexible alto clausula to the three-voice double cadence. To save space, only major-key versions are shown here. Don’t forget to use $\text{V}^7$ in minor.

**major keys**

- **third spacing**
- **fifth spacing**
- **octave spacing**

**simple + compound**

- $\frac{\text{C}}{5} \quad \frac{\text{C}}{1} \quad \frac{\text{C}}{5} \quad \frac{\text{C}}{1}$

The same as above, but starting with a $7$ instead of $5/3$.

**Variant with a 6/5-chord.**

- $\frac{\text{C}}{5} \quad \frac{\text{C}}{6} \quad \frac{\text{C}}{4} \quad \frac{\text{C}}{5} \quad \frac{\text{C}}{1}$

**More variants with 6/5-chords.**

- $\frac{\text{C}}{5} \quad \frac{\text{C}}{1} \quad \frac{\text{C}}{4} \quad \frac{\text{C}}{5} \quad \frac{\text{C}}{1}$

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Evaded Cadences in Three Voices

A cadence is "evaded" if the impression is given of ending with 5 o 1 o in the bass, but then something else happens. Here are three common evasive strategies (with a fourth shown on the next page).

Form 1: any cadence ending with 6 o in the bass (i.e. a "deceptive" cadence)

Form 2: any cadence ending with 5 o 3 o in the bass

Form 3: DC resolves to 4 7 (often 4 in new key), modulating down a fifth (see arrow): *motivo di cadenza.*

In the first evaded double cadence given below, all three voices can be inverted, making 6 combinations total. This is called triple invertible counterpoint. green = TC (agent); red = DC (patient); blue = alto clausula (auxiliary)
Evaded Cadences in Four Voices

The flexible alto clausula is added, plus a new variant with tonization. Minor-key versions are not shown.

Form 1: any cadence ending with 6o in the bass (i.e. a "deceptive" cadence)

Form 2: any cadence ending with 3o in the bass

Form 3: DC resolves to n7 (actually 4 in new key), modulating down a fifth (see arrow): *motivo di cadenza.*

Form 4: DC moves to #1, which becomes #7 (leading tone) in the key a step higher (see arrow)
Tenor or Discant Clausulae in the Bass in Three Voices

The DC and TC can also appear in the bass. They are less conclusive than cadences that end with 5 1. The blue voice, which resembles an alto clausula, is merely an auxiliary to the DC/TC pair.

**Discant clausula in the bass:**

<table>
<thead>
<tr>
<th>major keys</th>
<th>minor keys</th>
</tr>
</thead>
<tbody>
<tr>
<td>octave spacing</td>
<td>third spacing</td>
</tr>
<tr>
<td>octave spacing</td>
<td>third spacing</td>
</tr>
</tbody>
</table>

With a tenor clausula in the bass: 3 2 1

With another tenor clausula in the bass: 1 2 3. Notice that the third spacing ends with a dim. 5 moving to perfect 5, which is allowable if it involves a middle voice.

In this compendium, clausulae have been identified via scale degrees. This works most of the time. But there is another TC/DC pair—the "mi-cadence"—that ends on 5 in the bass (solfège syllable "mi" in hexachordal solmization). Here the TC ends with a half step (F-E) and the DC with a whole step (D-E). When conceived in terms of the major/minor system, a mi-cadence is equivalent to a half cadence.

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Tenor or Discant Clausulae in the Bass in Four Voices

Compare the four-voice versions here with the three-voice versions on the previous page. The black and blue voices are auxiliaries to the DC/TC pair. To save space, minor-key versions are not shown.

Discant clausula in the bass. To avoid parallel 5ths, the upper voices are not always invertible.

With a tenor clausula in the bass: $3\ 2\ 1$. Notice that in a 7-6 suspension, one usually avoids adding 5 to the 7 (i.e. double 3 or 8 instead). This progression is much easier in three voices than four.

With another tenor clausula in the bass: $1\ 2\ 3$. Dim.5-perf.5 is allowable if involving a middle voice.

C: $1\ 7\ 1$

C: $3\ 2\ 1$

With a tenor clausula in the bass: $3\ 2\ 1$. Notice that in a 7-6 suspension, one usually avoids adding 5 to the 7 (i.e. double 3 or 8 instead). This progression is much easier in three voices than four.

With another tenor clausula in the bass: $1\ 2\ 3$. Dim.5-perf.5 is allowable if involving a middle voice.

C: $1\ 2\ 3$

C: $1\ 7\ 6$

C: $7\ 6\ 6$

C: $7\ 6\ 6$

C: $7\ 6\ 6$

C: $7\ 6\ 6$

C: $7\ 6\ 6$

C: $7\ 6\ 6$

C: $7\ 6\ 6$

C: $7\ 6\ 6$

C: $7\ 6\ 6$

C: $7\ 6\ 6$

C: $7\ 6\ 6$

C: $7\ 6\ 6$

C: $7\ 6\ 6$

C: $7\ 6\ 6$

C: $7\ 6\ 6$

C: $7\ 6\ 6$

C: $7\ 6\ 6$

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C: $7\ 6\ 6$

C: $7\ 6\ 6$

C: $7\ 6\ 6$

C: $7\ 6\ 6$

C: $7\ 6\ 6$

C: $7\ 6\ 6$

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C: $7\ 6\ 6$

C: $7\ 6\ 6$

C: $7\ 6\ 6$

C: $7\ 6\ 6$

C: $7\ 6\ 6$

C: $7\ 6\ 6$

C: $7\ 6\ 6$

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C: $7\ 6\ 6$

C: $7\ 6\ 6$

C: $7\ 6\ 6$

C: $7\ 6\ 6$

C: $7\ 6\ 6$
Cadences with an "Active" Tenor Clausula

Up until now, we only examined situations where the TC remains held during the resolution of the *syncopatio* dissonance in the DC (a "static" TC), as shown below.

But the TC (indeed, any agent voice in a *syncopatio*) may also move to a different consonance after the dissonant "clash" at the PEN position, but before the ULT position, like when the TC leaps to 5 on beat four, as shown below. But this creates ambiguity regarding the clausulae. Is the green voice a tenor or a bass clausula? It has 2 at the PEN position, like a tenor clausula, but it also ends with 5 1, like a bass clausula. Ultimately, it doesn’t matter what we call it if we recognize the underlying contrapuntal processes: clausulae.

However, theories that track root motion (e.g. Roman numerals and function theory) draw a largely arbitrary distinction between the "active" and "static" tenor clausulae shown above. For example, why should the two chords at the arrows below be analyzed differently, when the overall voice-leading patterns are so similar? The reason is that, if you are working within a theory that assumes that (1) all chords have roots (even dissonant ones), and that (2) root motion between chords is syntactically meaningful, then you must analyze these two chords differently. But if you emphasize the underlying contrapuntal similarities in the clausulae, then you can view these two progressions as quite similar. Throughout the seventeenth century and up until around 1750, very few musicians thought in terms of chordal roots as we understand them today. Rather, these ideas emerged in the early 18th century and first gained widespread adoption in the second half of the 18th century.
Rule of the Octave (Basic Form)

The Rule of the Octave (RO) determines the normative harmonies for each bass degree. "Basic" means that this RO only has 5/3 and 6/3 chords (exception: 4o descending). A line through a figure means that this interval is raised chromatically. "5" serves merely as a reminder that the given bass degree takes a 5/3 chord. Notice that, in major, the descending RO tonicizes the dominant key (key of V).

Overview: Rules of the Octave (Non-Sequential Stepwise Bass Harmonizations)

Rule of the Octave (Advanced Form)

"Advanced" means that this RO contains dissonant harmonies (i.e. chords other than 5/3 and 6/3). See arrows.

Rule of the Octave (Basic Form)
Basic Rule of the Octave in Three Voices

To avoid parallel perfect fifths in the octave spacing, ascending only has a 5/3 chord instead of the normative 6/3 chord (see arrow).

To avoid parallel perfect fifths in the octave spacing, descending can take an augmented sixth (a dissonance). See the asterisk.
Here we see how even a stepwise bassline can be conceived as a series of cadences. Notice how each tetrachord (i.e. four-note bass segment) has invertible upper voices. A 4/2-chord appears on descending, which makes the bass into an incomplete DC (1 7 6 instead of 1 7 1). The TC is in the bass in green notes.

Notice the parallel perfect 5ths in the ascending version. At least they are not between the outer voices!

Notice the parallel perfect 5ths in the ascending version. At least they are not between the outer voices!

major keys

ascending

third spacing

descending

octave spacing

C(I): 1 2 3 4 5 6 7 1 (7 6 5 4 3 2 1)

G(V): 1 2 3 4 (4 3) 2 1

Notice the parallel perfect 5ths in the ascending version. At least they are not between the outer voices!

minor keys

ascending

third spacing

descending

octave spacing

par. perf. 5ths

a: 1 2 3 4 5 6 7 1 1 2 6 5 4 3 2 1
Some variation in the voice-leading is possible. Notice how similar the fifth spacing is to the third spacing. A few three-note chords are necessary to avoid voice-leading errors. Both C. P. E. Bach and J. D. Heinichen allow for the player to occasionally add or subtract a voice from the prevailing four-voice texture.
Advanced Rule of the Octave in Four Voices (Complete)

The advanced RO is not possible in only three parts.
Some variation in the voice-leading is possible.
A few three-note chords are necessary to avoid voice-leading errors.
Both C. P. E. Bach and J. D. Heinichen allow for the player to occasionally add or subtract a voice from the prevailing four-voice texture.

major keys

ascending

other spacings

descending

C(I): 1 2 3 4 5 6 7 1
G(V): 2 1

A few three-note chords are necessary to avoid voice-leading errors.

other spacings

minor keys

ascending

descending

a: 1 2 3 4 5 6 7 1

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Advanced Rule of the Octave in Four Voices
(Lower Half)

The RO is often more useful when conceived in two halves (with neighbor tones on each side)
All three upper voices are invertible, as shown by the colors. The colors do not relate to clausulae.
Advanced Rule of the Octave in Four Voices
(Upper Half)

The RO is often more useful when conceived in two halves (with neighbor tones on each side)
All three upper voices are invertible, as shown by the colors. The colors do not relate to clausulae.
**Stepwise Bass: Parallel 6/3 Chords**

Fauxbourdon refers to a series of 6/3 chords whose bass moves in stepwise motion. In order to avoid parallel fifths between the upper voices, the 6 has to be in the top voice. Parallel 6/3 chord are usually realized in three voices, since the voice-leading is simpler than in four.

Fauxbourdon

Parallel 6/3 Chords

**Three voices**

<table>
<thead>
<tr>
<th>Major keys ascending</th>
<th>Three voices</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Stepwise Bass: Parallel 6/3 Chords" /></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Minor keys ascending</th>
<th>Four voices</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Stepwise Bass: Parallel 6/3 Chords" /></td>
<td></td>
</tr>
</tbody>
</table>

In four voices, a filler-voice (green) is added that must move in a zig-zag to avoid parallels. The filler voice alternates between doubling the bass and the sixth of each chord.

<table>
<thead>
<tr>
<th>Major keys ascending</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Stepwise Bass: Parallel 6/3 Chords" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Minor keys ascending</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Stepwise Bass: Parallel 6/3 Chords" /></td>
</tr>
</tbody>
</table>

F♯ (see arrow) avoids a tritone leap in the tenor (c1-f♯1), but also creates an augmented second in the bass (♭-g♯).
Stepwise Bass: Ascending 5-6 & Descending 7-6 Sequences

An ascending stepwise bass can also be harmonized by a 5-6 sequence. The 7-6 is the analogue for descending stepwise basslines. As in fauxbourdon, the voice leading is simpler in three voices than in four.

Three voices

<table>
<thead>
<tr>
<th>Major Keys Ascending</th>
<th>Descending</th>
</tr>
</thead>
<tbody>
<tr>
<td>C:</td>
<td></td>
</tr>
<tr>
<td>1g 2e 3d 4c 5b 6a 7g</td>
<td>1g 7g 6a 5b 4c 3d 2e</td>
</tr>
<tr>
<td>C:</td>
<td></td>
</tr>
<tr>
<td>1g 2e 3d 4c 5b 6a 7g</td>
<td>1g 7g 6a 5b 4c 3d 2e</td>
</tr>
<tr>
<td>Minor Keys Ascending</td>
<td></td>
</tr>
<tr>
<td>a:</td>
<td></td>
</tr>
<tr>
<td>1g 2e 3d 4c 5b 6a 7g</td>
<td>1g 7g 6a 5b 4c 3d 2e</td>
</tr>
<tr>
<td>Major Keys Ascending</td>
<td></td>
</tr>
<tr>
<td>C:</td>
<td></td>
</tr>
<tr>
<td>1g 2e 3d 4c 5b 6a 7g</td>
<td>1g 7g 6a 5b 4c 3d 2e</td>
</tr>
<tr>
<td>Minor Keys Ascending</td>
<td></td>
</tr>
<tr>
<td>a:</td>
<td></td>
</tr>
<tr>
<td>1g 2e 3d 4c 5b 6a 7g</td>
<td>1g 7g 6a 5b 4c 3d 2e</td>
</tr>
</tbody>
</table>

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Version: February 5, 2021
Stepwise Bass: Syncopated-Bass Sequence in Two Voices

with "static" agent voice (blue)

major keys

with "active" agent voice (blue)

compare this version with the falling fifth sequence

with "static" agent voice (blue)

minor keys

a: 1 7 6 5 4 3 2 1

with "active" agent voice (blue)

compare this version with the falling fifth sequence
Stepwise Bass: Syncopated-Bass Sequence (with 6/3 Chords)

The 4/2 sequence is one of the most common sequences of the baroque period. It is important to know that the bass voice is the patient in the *syncopatio*.

**Three voices**

- **Major keys**
  - Third spacing
  - Octave spacing

- **Minor keys**
  - Third spacing
  - Octave spacing

**Four voices**

- **Major keys**
  - Third spacing
  - Fifth spacing

- **Octave spacing**
  - **Minor key**
    - Third spacing

[The third and fifth spacings are not shown.]

C: 1 7 6 5 4 3 2 1

C(VI): 4 3 2 1

(a): 1 7 6 5 4 3 2 1

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Stepwise Bass: Syncopated-Bass Sequence (with 6/5 Chords)

The 4/2 sequence is one of the most common sequences of the baroque period. Both the bass and the red voice are syncopated in alternation with one another.

major keys
third spacing

four voices

fifth spacing

octave spacing

minor keys
third spacing

fifth spacing

octave spacing

C: 1 7 6 5 4 3 2 1

a(i): 1 7 6 5 4 3 2 1

C(VI): 4 3 2

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Version: February 5, 2021
Stepwise Bass: Ascending Sequences

This sequence has the patient in the upper voice always reset to form the preparation of the next syncopatio. Although it can occur with only one of the upper voices, it is more common with two upper voices moving in parallel thirds or sixths. For reasons of space, minor-key versions are not shown.

with 9/4-8/3 syncopatio chain

with inverted voices

with 9/7-8/6 syncopatio chain

with inverted voices

another variant with 7-6 suspensions

with inverted voices

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Stepwise Bass: Ascending "Leapfrog" Sequences

This "leapfrog" sequence gives the impression of a continuous ascending syncopatio chain by having each patient leap up a fourth after its resolution, becoming the agent of the next syncopatio. The inverted versions do not occur as often, because the two upper voices end up quite far apart.

with 9-8 syncopatio chain

with 7-6 syncopatio chain
Leaping Bass: ↓3 ↑2 Sequence with 6/3 Chords

The falling thirds sequence is one of the most common sequences of the baroque period. To save space, only the beginning and end of each sequence is shown here. You should fill in the missing measures by continuing the sequential pattern.

Leaping Bass:

↓3

↑2

Sequence with 6/3 Chords

Yet another three-voice version would arise by omitting the tenor voice, leaving only red and green voices below.

major keys

third spacing

fifth spacing

fifth spacing

octave spacing

minor keys

third spacing

fifth spacing

octave spacing
The falling thirds sequence is one of the most common sequences of the baroque period. Since the 5 in a 6/5 chord is treated like a dissonance, it must therefore be prepared and resolved down by step. To save space, only the beginning and end of each sequence are shown here. You should fill in the missing measures by continuing the sequential pattern.
Leaping Bass:↓4 ↑2 Sequence

This sequence is famous from Pachelbel's "Canon in D." It is also called a "Romanesca" after the baroque dance.

Three voices

Four voices

Syncopatio dissonances can be added by holding over (1) the blue voice, or (2) the blue and red voices:

blue voice held (4-3 suspension):

blue and red voices held (6/4-5/3 suspension):

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Leaping Bass: $\uparrow 4 \downarrow 2$ Sequence

This sequence is repeated either up by step or up by third. It may be played with or without tonicization (the sharps). To save space, only major-key versions are shown.

**sequenced up by step**

**major keys**

**fifth spacing**

**octave spacing**

**third spacing**

**Four voices**

<table>
<thead>
<tr>
<th>C:</th>
<th>1</th>
<th>4</th>
<th>4</th>
<th>7</th>
<th>5</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>F:</td>
<td>5</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G:</td>
<td>3</td>
<td>1</td>
<td>a:</td>
<td>5</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

**sequenced up by third**

**major keys**

**fifth spacing**

**octave spacing**

**third spacing**

| C: | 1 | 4 | 3 | 6 | 5 | 1 |

**sequenced up by third (modulating), with leaps of an augmented 2 in the red voice**

<table>
<thead>
<tr>
<th>F:</th>
<th>5</th>
<th>1</th>
<th>a:</th>
<th>5</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>C:</td>
<td>5</td>
<td>1</td>
<td>e:</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>G:</td>
<td>5</td>
<td>1</td>
<td>b:</td>
<td>5</td>
<td>1</td>
</tr>
</tbody>
</table>
The falling fifths ("circle of fifths") sequence is one of the most common in the baroque period. It occurs in three forms: (1) only 5/3 chords, (2) alternating 5/3 and 7 chords, (3) vice versa, or (4) only 7 chords. Notice how the dissonant 7 is always prepared (tied over) by common tone in the same voice before it occurs. To save space, only the beginning and end of each sequence is shown in major and in four voices.

(1) only 5/3 chords

(2) 5/3 chord + 7 chord

(3) 7 chord + 5/3 chord

(4) only 7 chords
Leaping Bass: ↑5 ↓4 Sequence

This sequence is best used on those bass degrees that have a perfect fifth above them. Arrows indicate dim.5ths. One can lower the bass note chromatically to solve this, but this creates a dissonant bass leap and cross relation. A cross relation is an augmented or diminished interval occurring in different voices in consecutive harmonies, in this case the augmented unison between B♭ and B♭. To save space, only major-key versions are shown.

Three voices

This sequence has a typical three-voice solution with 4-3 syncopation dissonances.

The upper voices of this sequence often appear on their own, sometimes as a canon:

Four voices

fifth spacing
The omnibus sequence or progression is usually more associated with the 19th century, but it first emerged in the late 18th century. Composers only use a segment of the entire sequence. Notice how two voices hold while the other two move chromatically in contrary motion. The harmonies also repeat after each group of four chords. The entire progression is reversible. The omnibus is thus a special case of "wedge" voice leading, or when two parts move contrary by step. It is difficult to decipher the key of the omnibus sequence, since it is so chromatic. Therefore, no bass scale degrees have been added. In practice, any chord can be taken as the start of a key. Thus, one function of the omnibus sequence is to modulate quickly to distantly related keys.
Appendix 1: Common Modulation Strategies

modulation up a fifth via bass syncopation and \#4/2

\[ \text{bass syncopation} \]
\[ \text{double cadence} \]

\[ \begin{array}{c}
\text{C(I): } 1 \\
\text{G(V): } 4 \\
\text{3} \\
\text{2} \\
\text{5} \\
\text{1}
\end{array} \]

modulation down a fifth via \textit{motivo di cadenza} (see p. 13)

\[ \text{bass syncopation} \]
\[ \text{double cadence} \]

\[ \begin{array}{c}
\text{C(I): } 1 \\
\text{F(IV): } 4 \\
\text{3} \\
\text{2} \\
\text{5} \\
\text{1}
\end{array} \]

modulation down a fifth via \textit{motivo di cadenza} (see p. 13)

\[ \text{evaded double cadence} \]
\[ \text{double cadence} \]

\[ \begin{array}{c}
\text{C(I): } 5 \\
\text{F(IV): } 5 \\
\text{1} \\
\text{4} \\
\text{5} \\
\text{1}
\end{array} \]

modulation up a second (see page 14)

\[ \text{evaded double cadence} \]
\[ \text{double cadence} \]

\[ \begin{array}{c}
\text{C(I): } 5 \\
\text{d(ii): } 4 \\
\text{3} \\
\text{2} \\
\text{5} \\
\text{1}
\end{array} \]
modulation down a third each time (see "carousel" on p. 14)
Appendix 2: Alphabetical List of Schemata

The vocabulary of schemata (singular: schema) analysis is mostly a product of recent music theory scholarship—that is, it is for the most part not historical in origin. Schemata are best identified in terms of outer-voice scale degrees in a given rhythmic pattern of strong and weak beats. That is, the key and time signatures given here are somewhat arbitrary. In context, schemata are varied and ornamented in countless ways. Roman numerals indicate the relationship of tonicized keys to the main key of C major. Not all schemata can be transferred to the minor mode. Because middle voices are subordinate, they are only indicated as thoroughbass figures. Parenthesis show possible variations. Schemata can most clearly be seen in galant and classical works (i.e. after c.1720 into the early 19th century). The schemata are labelled according to where they most often occur—beginning, middle, or end of a phrase—but some variation is possible.

Comma (middle or end of phrase)

"Complete" Cadence (end of phrase)

Converging Cadence (middle or end of phrase)
Cudworth Cadence (end of phrase)

Do-Re-Mi (beginning of phrase)

Fenaroli (middle of phrase); often forte, repeated piano

Fonte ("fountain"; beginning or middle of phrase)
Ponte ("bridge"; beginning or middle of phrase) - any prolongation of 5 in the bass

Prinner / La-Sol-Fa-Mi (middle of phrase)

Quiescenza (beginning or end of phrase)

"New" Romanesca (beginning of phrase)
"Old" Romanesca / Pachelbel Canon in D (beginning of phrase)

\[ \begin{array}{c}
\hat{3} & 2 & 1 & 7 \\
\text{C:} & 1 & 6 & 6 & 3
\end{array} \]

Sol-Fa-Mi (beginning of phrase)

\[ \begin{array}{c}
\hat{5} & 4 & 4 & 3 \\
\text{C:} & 1 & 2 & 7 & 1
\end{array} \]