

99% Perspiration

Module 3 of *Music: Under the Hood*

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July 2017

Outline

- Part writing
- Part writing – Bach
- Part writing – Beethoven

Part Writing

- Music is 1% inspiration...
 - ...and 99% perspiration
- Example: **Part-writing**
 - A seemingly simple chore.
 - Add harmony parts to a melody.
 - It's a complex combinatorial problem.
 - The “harmony” and the “melody” ideally become one.
 - Neither makes sense without the other.



Part Writing: Bach

- Chorale harmonizations
 - Governed by traditional rules since 18th century
- The chorale tune itself is of little interest.
 - The “harmony” brings it alive.
- Consider this famous chorale...



Part Writing: Bach

[Audio file – Melody](#)

[Audio file – Harmony](#)

Passion Chorale

From St Matthew Passion (1727)

J. S. Bach

$\text{♩} = 50$

SA
O Haupt voll Blut und Wunden, voll Schmerz und voller Hohn! O

TB

SA
Haupt zu Spott gebunden mit einer Dornenkrone! O

TB

Part Writing: Bach

SA

Haupt sonst schön ge - zie - ret mit höch - ster Ehr' und Zier, ——— jetzt

TB

SA

73

a - ber hoch schim - pfi - ret: ge - grü - sset sei'st du mir!

TB

rit.

Part Writing: Bach

Translation of Text

O sacred Head, now wounded,
with grief and shame weighed down,
Now scornfully surrounded with thorns,
Thine only crown;

O sacred Head, what glory,
what bliss till now was Thine!
Yet, though despised and gory,
I joy to call Thee mine.

Part Writing: Bach

Audio file – Harmony

Passion Chorale

From St Matthew Passion (1727)

J. S. Bach

$\text{♩} = 50$ **vi – D minor** - - - - -

SA
O Haupt voll Blut und Wunden, voll Schmerz und voller Hohn! O

TB

vi – D minor - - - - -

SA
Haupt zu Spott gebunden mit einer Dornen-krone! O

TB

8

Part Writing: Bach

I – F major - - - - - IV – Bb major (G minor D major)

SA

TB

Haupt sonst schön ge - zie - ret mit höch - ster Ehr' und Zier, ——— jetzt

V – C major - - - - - I – F major - - - - -

SA

TB

a - ber hoch schim - pfi - ret: ge - grü - sset sei'st du mir!

rit.

Part Writing: Amateur

[Audio file](#)

Passion Chorale

with part-writing errors

Composition 101 student

♩ = 50

SA

O Haupt voll Blut und Wunden, voll Schmerz und voller Hohn!

TB

Parallel
octaves

Part Writing: Amateur

[Audio file](#)

Passion Chorale

with part-writing errors

Composition 101 student

The image shows a musical score for Soprano Alto (SA) and Tenor Bass (TB) parts. The score is in 4/4 time with a key signature of one flat (B-flat). The tempo is marked as quarter note = 50. The lyrics are: "O Haupt voll Blut und Wunden, voll Schmerz und voller Hohn!". The score contains several errors highlighted in red:

- Parallel octaves:** Indicated by red lines between the SA and TB parts in the first two measures.
- Unresolved 2nd inversion:** A red box highlights a chord in the third measure where the bass note is a second above the root, which is not resolved.

SA
TB

O Haupt voll Blut und Wunden, voll Schmerz und voller Hohn!

Parallel octaves
Unresolved 2nd inversion

Part Writing: Amateur

[Audio file](#)

Passion Chorale

with part-writing errors

Composition 101 student

The image shows a musical score for Soprano Alto (SA) and Tenor Bass (TB) parts. The score is in 4/4 time with a key signature of one flat (B-flat). The tempo is marked as quarter note = 50. The lyrics are: "O Haupt voll Blut und Wunden, voll Schmerz und voller Hohn!". The score contains several part-writing errors highlighted in red:

- Parallel octaves:** Indicated by red lines between the SA and TB parts in the first and third measures.
- Unresolved 2nd inversion:** A red box highlights a chord in the fourth measure where the bass note is a second above the root, which is not resolved.
- Parallel fifths:** Indicated by red lines between the SA and TB parts in the fifth and sixth measures.

SA
TB

O Haupt voll Blut und Wunden, voll Schmerz und voller Hohn!

Parallel octaves
Unresolved 2nd inversion
Parallel fifths

Part Writing: Amateur

[Audio file](#)

Passion Chorale

with part-writing errors

No contrary motion

Composition 101 student

The image shows a musical score for Soprano Alto (SA) and Tenor Bass (TB) parts. The score is in 4/4 time with a key signature of one flat (B-flat). The tempo is marked as quarter note = 50. The lyrics are: "O Haupt voll Blut und Wunden, voll Schmerz und voller Hohn!". The score highlights several part-writing errors with red boxes and lines:

- Parallel octaves:** Indicated by red lines between the SA and TB parts in the first and third measures.
- Unresolved 2nd inversion:** A red box highlights the second measure of the SA part, where the notes are in a second inversion chord.
- Parallel fifths:** A blue box highlights the second measure of the TB part, where the notes are in a parallel fifth interval.

Additional annotations include a blue arrow pointing to the second measure of the SA part with the text "No contrary motion", and a blue box around the second measure of the TB part.

Part Writing: Amateur

[Audio file](#)

Passion Chorale

with part-writing errors

No contrary motion

Composition 101 student

SA

♩ = 50

4/4

O Haupt voll Blut und Wun - den, voll Schmerz und vol - ler — Hohn!

TB

Parallel octaves

Unresolved 2nd inversion

Parallel fifths

Dissonant cross-relation

No contrary motion

The image shows a musical score for Soprano Alto (SA) and Tenor Bass (TB) parts of a chorale. The score is in 4/4 time with a tempo marking of ♩ = 50. The key signature has one flat (B-flat). The lyrics are: "O Haupt voll Blut und Wun - den, voll Schmerz und vol - ler — Hohn!". The score contains several annotations in red and blue. A red box highlights a section where the SA and TB parts move in parallel octaves. Another red box highlights a section where the SA and TB parts move in parallel fifths. A blue box highlights a section where the SA and TB parts move in parallel motion, with a blue arrow pointing to the text "No contrary motion". A red line indicates a dissonant cross-relation between the SA and TB parts. A red line also indicates an unresolved 2nd inversion chord. The text "with part-writing errors" is written above the score, and "Composition 101 student" is written to the right.

Part Writing: Bach

Passion Chorale

From St Matthew Passion (1727)

J. S. Bach

♩ = 50

SA

O Haupt voll Blut und Wun - den, voll Schmerz und vol - ler Hohn! — O

TB

Uh-oh. Dissonant cross-relation in Bach's harmonization?

Part Writing: Bach

Passion Chorale

From St Matthew Passion (1727)

J. S. Bach

♩ = 50

SA

O Haupt voll Blut und Wun - den, voll Schmerz und vol - ler Hohn! — O

TB

Uh-oh. Dissonant cross-relation in Bach's harmonization?
Technically no, because this starts a new phrase.

Part Writing: Bach

[Audio file](#)

Passion Chorale

From St Matthew Passion (1727)

J. S. Bach

♩ = 50

SA

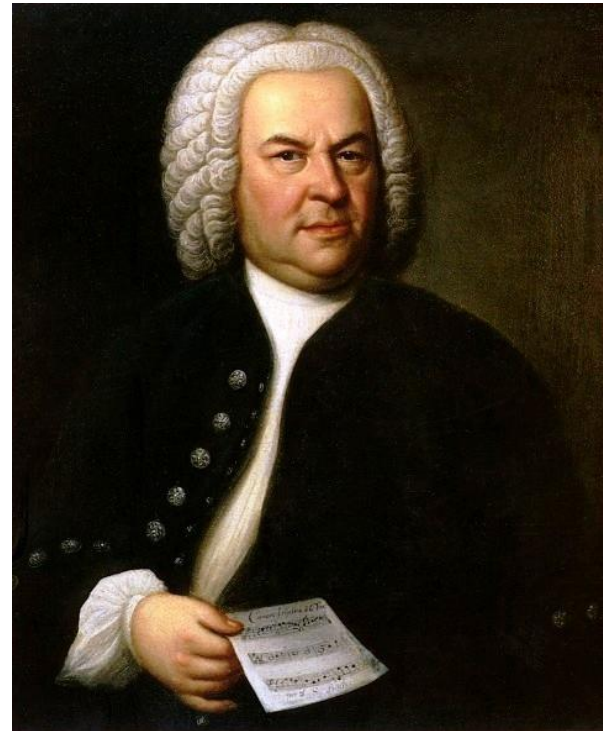
O Haupt voll Blut und Wun - den, voll Schmerz und vol - ler Hohn! — O

TB

Uh-oh. Dissonant cross-relation in Bach's harmonization?
Technically no, because this starts a new phrase.
Also C# picks up previous C

Part Writing: Bach

- Of course, following all the rules doesn't make a good chorale.
 - The technical details must serve a larger purpose.
 - Let's have a second look at the Passion Chorale...



Part Writing: Bach

[Audio file – Harmony](#)

Passion Chorale

From St Matthew Passion (1727)

J. S. Bach

$\text{♩} = 50$ **Begins in dolorous minor key**

SA
O Haupt voll Blut und Wunden, voll Schmerz und voller Hohn! O

TB

SA
Haupt zu Spott gebunden mit einer Dornen-krone! O

TB

19

Part Writing: Bach

Recalls happier times in major keys

SA

Haupt sonst schön ge - zie - ret mit höch - ster Ehr' und Zier, ——— jetzt

TB

Note of hope by resolving into major tonic

SA

a - ber hoch schim - pfi - ret: ge - grü - sset sei'st du mir!

TB

rit.

Part Writing: Bach

[Audio file](#)

Passion Chorale

From St Matthew Passion (1727)

J. S. Bach

$\text{♩} = 50$ **Echoes in passing tones.**

SA
O Haupt voll Blut und Wunden, voll Schmerz und voller Hohn! O

TB

SA
Haupt zu Spott gebunden mit einer Dornen-krone! O

TB

21

Part Writing: Bach

[Audio file](#)

Passion Chorale

From St Matthew Passion (1727)

J. S. Bach

$\text{♩} = 50$ Echoes in passing tones.

Arc in baseline gives shape to phrase.

SA
O Haupt voll Blut und Wun - den, voll Schmerz und vol - ler Hohn! — O

TB

SA
Haupt zu Spott ge - bun - den mit ein - er Dor - nen - kron! — O

TB

22

Part Writing: Bach

[Audio file](#)

Passion Chorale

From St Matthew Passion (1727)

J. S. Bach

Echoes in passing tones.

Arc in baseline gives shape to phrase.

Dissonant suspension accentuates mood

SA
TB

O Haupt voll Blut und Wun - den, voll Schmerz und vol - ler Hohn! — O

SA
TB

Haupt zu Spott ge - bun - den mit ein - er Dor - nen - kron! — O

23

Detailed description: The image shows two systems of musical notation for Soprano Alto (SA) and Tenor Bass (TB) parts. The first system covers measures 1-4, and the second system covers measures 5-8. The music is in 4/4 time with a tempo marking of quarter note = 50. Red annotations highlight specific musical features: two pairs of eighth notes in the SA part (measures 1 and 2) and two pairs in the TB part (measures 1 and 2) are circled and labeled 'Echoes in passing tones.' A large red arc spans across the bottom of the first system, labeled 'Arc in baseline gives shape to phrase.' In the second system, a single eighth note in the TB part (measure 6) is circled and labeled 'Dissonant suspension accentuates mood'. The lyrics are in German, and the page number 23 is visible at the bottom right.

Part Writing: Bach

Major key suspensions change mood

SA

Haupt sonst schön ge - zie - ret mit höch - ster Ehr' und Zier, ——— jetzt

TB

SA

a - ber hoch schim - pfi - ret: ge - grü - sset sei'st du mir!

TB

rit.

Part Writing: Bach

Major key suspensions change mood

SA
Haupt sonst schön ge - zie - ret mit höch - ster Ehr' und Zier, ——— jetzt

TB

SA
a - ber hoch schim pfi - ret: ge - grü - sset sei'st du mir!

TB

Double passing tone signals slowing to more pensive mood.

Part writing: Beethoven

Adagio Cantabile from Pathetique Sonata

L. van Beethoven (1798)

[Audio file
\(performance\)](#)

[Audio file
\(excerpt\)](#)

$\text{♩} = 60$ I. Ab major - - - - - Bb⁷ V. Eb major - -

Piano

- - - - - I. Ab - - - F⁷ ii. Bb - - - V. Eb - - - I. Ab major (appoggiatura)

Pno.

Part writing: Beethoven

[Audio file
\(performance\)](#)

[Audio file
\(excerpt\)](#)

Leading tone to Eb
provides contrary motion

$\text{♩} = 60$ I. Ab major - - - - - Bb⁷ V. Eb major - -

Piano

- - - - - I. Ab - - - F⁷ ii. Bb - - - V. Eb - - - I. Ab major (appoggiatura)

Pno.

Part writing: Beethoven

[Audio file \(performance\)](#)

[Audio file \(excerpt\)](#)

Leading tone to Eb provides contrary motion

$\text{♩} = 60$ I. Ab major - - - - - Bb⁷ V. Eb major - -

Piano

What's this?
Eb dominant 7-9

I. Ab - - - F⁷ ii. Bb - - - V. Eb - - - I. Ab major (appoggiatura)

Pno.

Part writing: Beethoven

[Audio file \(performance\)](#)

[Audio file \(excerpt\)](#)

Leading tone to Eb provides contrary motion

$\text{♩} = 60$ I. Ab major - - - - - Bb⁷ V. Eb major - -

Piano

Delayed resolution of leading tone

What's this?
Eb dominant 7-9

I. Ab - - - F⁷ ii. Bb - - - V. Eb - - - I. Ab major (appoggiatura)

Pno.