

99% Perspiration

Module 3 of *Music: Under the Hood*

John Hooker
Carnegie Mellon University

Osher Course
September 2018

1


Outline

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

2

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.



3

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...



4

Part Writing: Bach

[Audio file – Melody](#) **Passion Chorale**
[Audio file – Harmony](#) From St Matthew Passion (1727) J. S. Bach

♩ = 50

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

5

Part Writing: Bach

SA
TB

Haupt sonst schön ge - zie - ret mit höch - ster Ehr' und Zer. — jetzt

SA
TB

a - ber hoch schim - mli - ret ge - grü - sset sich' du mit!

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.

7

Part Writing: Bach

[Audio file – Harmony](#)

Passion Chorale

From St Matthew Passion (1727)

J. S. Bach

SA $\text{♩} = 50$ vi – D minor
O Haupt voll Blut und Wun - den, voll Schmerz und vol - ler Hohn! O

TB

SA vi – D minor
Haupt zu Spott ge - bun - den mit ein - er Dor - nen - kron! O

TB

Part Writing: Bach

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

SA I – F major ----- IV – Bb major (G minor D major)
Haupt sonst schön ge - zie - ret mit höch - ster Ehr' und Zier - jetzt

TB

SA V – C major ----- I – F major -----
a - ber hoch schün - pf - ret ge - grü - sset sei'st du mir!

TB

Part Writing: Amateur

[Audio file](#)

Passion Chorale

with part-writing errors

Composition 101 student

SA $\text{♩} = 50$
O Haupt voll Blut und Wun - den, voll Schmerz und vol - ler Hohn!

TB

Parallel octaves

10

Part Writing: Amateur

[Audio file](#)

Passion Chorale

with part-writing errors

Composition 101 student

SA $\text{♩} = 50$
O Haupt voll Blut und Wun - den, voll Schmerz und vol - ler Hohn!

TB

Parallel octaves
Unresolved 2nd inversion

11

Part Writing: Amateur

[Audio file](#)

Passion Chorale

with part-writing errors

Composition 101 student

SA $\text{♩} = 50$
O Haupt voll Blut und Wun - den, voll Schmerz und vol - ler Hohn!

TB

Parallel octaves
Unresolved 2nd inversion
Parallel fifths

12

Part Writing: Amateur

Passion Chorale
with part-writing errors
Composition 101 student

[Audio file](#)

SA
TB

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

Parallel octaves Unresolved 2nd inversion Parallel fifths

No contrary motion

13

Part Writing: Amateur

Passion Chorale
with part-writing errors
Composition 101 student

[Audio file](#)

SA
TB

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

Parallel octaves Unresolved 2nd inversion Parallel fifths Dissonant cross-relation

No contrary motion

14

Part Writing: Bach

Passion Chorale
From St Matthew Passion (1727) J. S. Bach

SA
TB

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

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

15

Part Writing: Bach

Passion Chorale
From St Matthew Passion (1727) J. S. Bach

SA
TB

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

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

16

Part Writing: Bach

Passion Chorale
From St Matthew Passion (1727) J. S. Bach

[Audio file](#)

SA
TB


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

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

17

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...



18

Part Writing: Bach

[Audio file – Harmony](#)

Passion Chorale
From St Matthew Passion (1727) J. S. Bach

♩ = 50 **Begins in dolorous minor key**

SA
TB

Part Writing: Bach

Recalls happier times in major keys

SA
TB

Note of hope by resolving into major tonic

Part Writing: Bach

[Audio file](#)

Passion Chorale
From St Matthew Passion (1727) J. S. Bach

♩ = 50 **Echoes in passing tones.**

SA
TB

Part Writing: Bach

[Audio file](#)

Passion Chorale
From St Matthew Passion (1727) J. S. Bach

♩ = 50 **Echoes in passing tones.**

SA
TB

Arc in baseline gives shape to phrase.

Part Writing: Bach

[Audio file](#)

Passion Chorale
From St Matthew Passion (1727) J. S. Bach

♩ = 50 **Echoes in passing tones.**

SA
TB

Arc in baseline gives shape to phrase.

Dissonant suspension accentuates mood

Part Writing: Bach

Major key suspensions change mood

SA
TB

Part Writing: Bach

Major key suspensions change mood

SA Haupt sonst schön ge - zie - ret mit höch - ster Ehr' und Zer - jetzt

TB a - ber hoch - schim - mel - ret ge - grü - setz - setz du mir!

Soaring tenor line enriches counterpoint

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 \(excerpt\)](#)

I. Ab major Bb⁷ V. Eb major ..

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

Part writing: Beethoven

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

Leading tone to Eb provides contrary motion

I. Ab major Bb⁷ V. Eb major ..

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

Part writing: Beethoven

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

Leading tone to Eb provides contrary motion

I. Ab major Bb⁷ V. Eb major ..

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

What's this?
Eb dominant 7-9

Part writing: Beethoven

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

Leading tone to Eb provides contrary motion

I. Ab major Bb⁷ V. Eb major ..

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

What's this?
Eb dominant 7-9

Delayed resolution of leading tone