



WPI

Sacred Renaissance Polyphony: Setting the Divine Mercy Sunday Texts for the Liturgy

A Major Qualifying Project

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Abstract

The goal of this project was to set the Divine Mercy Sunday Entrance Antiphon, Psalm, Alleluia, and Communion Antiphon in the style of Sacred Renaissance Polyphony. The first step was to study Johann Joseph Fux's *Gradus Ad Parnassum*, a classic book about the step-by-step process of learning to write renaissance polyphony, which taught many famous composers such as Haydn, Mozart, and Beethoven. The second step was to study the great composers of this style and their works, including William Byrd, Thomas Tallis, Tomás Luis de Victoria, and Giovanni Pierluigi da Palestrina. Next the text was analyzed to find accents and patterns in flow and meaning. The text was set based on those accents and patterns, following Fux's rules and the examples of the great composers. This project partnered with St John's and St Bernard's in Worcester to sing the project live at Catholic Mass for Divine Mercy Sunday.

Introduction

The Composer

Worcester Polytechnic Institute (WPI) is a tech school with a surprisingly incredible music program. The goal of this project was to compose Sacred Renaissance Polyphony by setting the Divine Mercy Sunday texts in that style as appropriate for the Liturgy. My name is Benjamin Slattery, and I am a Catholic composer double majoring in Computer Science and Music Composition at WPI. While I had the option to combine my Music and Computer Science MQPs into one project, I chose to keep them separate

because I thought it would be an invaluable experience to write a new composition with the assistance of great music teachers. This was correct. I have been in Glee Club all my years at WPI because of how great it is to participate in community through singing, and I've been the Catholic Newman Club Music Director for the past four years to help use music to support the liturgy.

Sacred Renaissance Polyphony

Sacred Renaissance polyphony developed from Gregorian chant. Gregorian chant was the sacred musical tradition of the Catholic for centuries. It eventually developed the style of Organum, where the same Gregorian chant would be sung a fifth apart by two different voices. They started to have the different voices begin the chant at different times like a canon, and started to alter the notes in the voices so that they would match up harmoniously when offset, and adding in thirds. Polyphony is when multiple voices sing independent lines. In the Renaissance, polyphony was used to set the texts of the Liturgy.

Theology

Theology begins with God. God is love, and love is a relationship between people, so God must be multiple persons. God is the Trinity, being the three persons; the Father, Son and Holy Spirit. The Father loves the Son so much that their love becomes a person and gets a name, the Holy Spirit, just as how when a husband and wife love each other, their love sometimes becomes a person and gets a name, their

child. The Holy Spirit is the person who is the relationship between the Father and the Son.

The Son became the incarnate Jesus Christ through the Virgin Mary by the power of the Holy Spirit. When Jesus was betrayed by Judas, the high priests condemned Jesus to death and had the Romans crucify Him. He was forced to carry the cross before they nailed Him to it.

The Romans had mastered the use of crucifixion as a torture device, so crucifixion was never actually the cause of death for criminals condemned to it. There is a place in the wrist (contained in the Aramaic word for hand) where there is a very sensitive nerve but no major blood vessels, so the Romans used it to maximize the pain of their victims without letting them bleed to death (UnChained). The victims were not allowed to die until the Romans broke their legs so that their body weight would compress their lungs until they asphyxiated. Describing the Passion, John writes “Instead, one of the soldiers pierced Jesus’ side with a spear, bringing a sudden flow of blood and water.” (John 19:34) This separation of blood and water occurs when the particles separate from the plasma of the blood which takes about half an hour, meaning that Jesus was already dead when Longinus pierced His side with the spear (UnChained). This reveals new meaning in “These things happened so that the scripture would be fulfilled: “Not one of his bones will be broken,” (John 19:36) and “Jesus called out with a loud voice, “Father, into your hands I commit my spirit.” When he had said this, he breathed his last.” (Luke 23:46), showing that Jesus gave up His life by His own power, making it a gift of love to the whole world.

“Sister Faustina was born on August 25, 1905 in Glogowiec, Poland.” (St. Maria)

She joined the Sisters of Our Lady of Mercy in 1925. Jesus began to appear to her in apparitions, which have been approved as worthy of belief by the Catholic Church, to reveal to her and the whole world the infinite greatness of His Divine Mercy. His love is so great that no person, no matter what they’ve done, can ever be unforgivable. As recorded in Faustina’s diary, He said "I sent prophets wielding thunderbolts to My people. Today I am sending you with My mercy to the people of the whole world. I do not want to punish aching mankind, but I desire to heal it, pressing it to My Merciful Heart." This Divine Mercy is sacramentally incarnate in the Passion when the blood and water poured from His side from the spear of Longinus, so the image of Divine Mercy depicts the same red and white. He requested that a Feast to His Divine Mercy be celebrated the last Sunday of the Octave of Easter, and promised that anyone who makes a good Confession and worthily receives the Eucharist on that day would be restored to the grace of Baptism. The Feast of Divine Mercy was chosen for this project because of the beauty of His love and mercy, as well as its timing. Pope Saint John Paul II canonized Saint Faustina in 2000.

One part of Theology that was missed and should have included is that the wound that Thomas sees in the Alleluia verse is the same as the wound opened by the spear of Longinus from which poured every last drop of Christ’s blood and water, His Divine Mercy.

The Mass is never performed, it is always prayed. “Sung” is an appropriate word to use for the Mass because singing can be a prayer, but performance implies that the primary goal is to be heard. The Mass is about glorifying God by offering the sacrifice of

the Son to the Father. Due to this, this project has been sung but has not been performed.

Analysis

Johann Fux was a composer in the late Renaissance, but he is most famous for his book on how to compose in the style of Renaissance polyphony, *Gradus ad Parnassum*. His book has taught many composers how to voice-lead multiple independent parts, including Haydn, Mozart, and Beethoven. The rules he describes in his book inform the composition at the scale of a measure, leaving much room for creativity.

Every pair of voices must be compared to make sure they do not move in the same direction into a fifth, or an octave or unison. This is Fux's rule 22 (on page 22 of *Gradus ad Parnassum*), which Martini summarizes that the only motion prohibited is direct motion into a perfect interval, where direction motion means moving in the same direction.

Byrd's Kyrie for Five Voices

William Byrd was a composer who lived in the Renaissance in England, composing in the tradition of Sacred Renaissance Polyphony and contributing toward its organic development. While he did not follow Fux's rules as an explicit, intentional choice, as they were not written or published yet, he followed them implicitly as his work is part of the collection of works that Fux was attempting to describe by the rules in his book.

MASS FOR FIVE VOICES

Kyrie

Edition by Carlos Rodríguez Otero

William Byrd (c.1540-1623)

Superius (Soprano) K Y- ri- e e- lei- Ky - ri - e e - lei -

Contratenor (Alto) K Y- ri- e e- Ky - ri - e e - lei -

Tenor Primus (Tenor 1) K Y- ri- e e- Ky - ri - e e - lei -

Tenor Secundus (Tenor 2) K Y- ri- e e- Ky - ri -

Bassus (Bass) K Y- ri- e e- lei-

4 56a 60b 56a 28b

- - - son, Ky - ri - e e -

Ky - ri - e e - lei - son, Ky - ri -

- - - son, 41 Ky - ri - e e - lei -

e e - lei - - - son, Ky - 41 ri - e e -

Ky - ri - e e - lei - - - 97

8 28b 42b 71

lei - son.

e e - lei - son.

lei - son.

lei - son.

son.

- 28b "Finally, it should be noted that in the next to last bar there must be a major sixth if the cantus firmus is in the lower part; and a minor third, if it is in the upper part."
- 41 "It is satisfactory if the space between the two notes, a third distant from each other, is filled out."
- 42b "Consider the ending before you start to write."
- 50a "One must observe that if five quarters follow each other either ascending or descending, the first one has to be consonant, the second may be dissonant, and the third must again be consonant. The fourth one may be dissonant if the fifth is consonant"
- 56a "On this account dissonances should always resolve descending stepwise to the next consonances"
- 50b "For the rest, in this species a seventh resolving to a sixth should appear in the next to last measure if the cantus firmus is in the lower voice. If the cantus firmus is in the upper voice one should conclude with a second resolving to a third and finally moving into the unison."
- 71 "The harmonic triad should be employed in every measure if there is no special reason against it."
- 97 "One must realize that much is prohibited in the upper register—being there more perceptible and more obvious to the ear—that may be tolerated in the lower register, because there it becomes somewhat blurred on account of the lowness and does not strike the ear as sharply. For highness accentuates and lowness subdues."
- This is the theme used for the imitation.
- This is a variation of the theme used for imitation.

Analysis Example #1) the Kyrie from Byrd's Mass for 5 Voices

In the Kyrie in Byrd's Mass for five voices, he constructs his polyphony using imitation, where each voice enters on the same theme imitated at different times in the song. His first theme, circled in green in analysis example #1, is the first theme imitated by the voices. This theme starts with a long note and descends stepwise before returning and ascending. He varies this theme in the later entrances, circled in turquoise, by descending a fifth instead of a step.

It is easier to sing stepwise motion than leaps, which also happen to be quite beautiful. Fux instructs in rule 41 that leaps should be filled out with stepwise notes in most cases. This can be seen in analysis example #1 in measures 2-3 in the Soprano, 4-5 in the Tenor 2, and 7 in the Bass and Tenor 1.

Fux provides extra rules for how to approach a cadence, at the end of the musical line. From measures 4 to 5, the Soprano and Tenor 1 approach the unison from an interval of a minor third according to rule 28b which states the same. From measures 8 to 9, the Alto and Tenor 1 approach the final cadence from an interval of a major sixth according to rule 28b as well. The Tenor 1 resolves up to scale degree 3 at an interval of a minor sixth instead of down to scale degree 1 at an interval of an octave like it is supposed to because five-part writing has more room for such variations than two-part voice leading. The preceding beat is an interval of a second according to rule 60b, prepared beforehand with a C according to rule 56a. Rule 60b states that in fourth species counterpoint (or fifth, as fifth species contains all the other species) the final unison should be approached by a major second resolving to a minor third, or the octave by a minor seventh resolving to a major third.

Composition

Fux's Rules

Entrance Antiphon

1. Entrance Antiphon

Andante $\text{♩} = 100$

Re - ceive the joy of your glo - ry, gi - ving thanks to God,

Rules:

- 28b "Finally, it should be noted that in the next to last bar there must be a major sixth if the cantus firmus is in the lower part; and a minor third, if it is in the upper part."
- 41 "It is satisfactory if the space between the two notes, a third distant from each other, is filled out."
- 42b "Consider the ending before you start to write."
- 50a "One must observe that if five quarters follow each other either ascending or descending, the first one has to be consonant, the second may be dissonant, and the third must again be consonant. The fourth one may be dissonant if the fifth is consonant"
- 56a "On this account dissonances should always resolve descending stepwise to the next consonances"
- 60b "For the rest, in this species a seventh resolving to a sixth should appear in the next to last measure if the cantus firmus is in the lower voice. If the cantus firmus is in the upper voice one should conclude with a second resolving to a third and finally moving into the unison."
- 71 "The harmonic triad should be employed in every measure if there is no special reason against it."
- 97 "One must realize that much is prohibited in the upper register—being there more perceptible and more obvious to the ear—that may be tolerated in the lower register, because there it becomes somewhat blurred on account of the lowness and does not strike the ear as sharply. For highness accentuates and lowness subdues."
- 131 "The interval of the fourth in the inner voices is not very prominent; in fact, it rather assumes the character of an imperfect consonance."

Musical Composition Example #1) Entrance Antiphon

It is important to start off well to create a good first impression, which makes the Entrance Antiphon one of the more important passages in the piece, as shown in Musical Composition Example #1. The piece was written using Fux's rules on how to write effective counterpoint. This section is repeated throughout the Psalm. The congregation is invited to sing along with the Entrance Antiphon if there is time to repeat it, so it is set homophonically¹ to make it easier for them to sing along.

¹ Homophonic, Homophonically - Singers singing different parts still sing the same words at the same time

2. Psalm

A Andante $\text{♩} = 100$ 50a 28a 71 71 71

71 Give thanks to the Lord for He is good, 56a His

love is ev - er - last - - - - - ing

B 71 41 50a 71

His mer - cy en - dures for -

Let the house of Is - ra - el say, 97

Let the house of A - a - ron say,

- e - - - - - ver

41 22e 28a

"Martini reduces them to one: the only progression forbidden is direct motion into a perfect consonance."

"More imperfect than perfect consonances should be employed. Excepted are the beginning and the end which both must consist of perfect consonances."

Musical Composition Example #2) Psalm Refrain and Verse 1

One of the most important passages in the piece is the Psalm refrain shown in musical composition example #2. This section is repeated throughout the Psalm. The

congregation sings the melody of the refrain every time it appears in the music, so it is also set homophonically to make it easier for them to sing along. The melody of the Psalm refrain was also carefully constructed to be as easy to sing as possible while also containing leitmotifs.

Fux's first rule 22e is that two voices should not both move into a perfect interval from the same direction. In rule 28a, Fux suggests composers should write imperfect intervals more often than perfect intervals because having fewer perfect intervals is fewer chances to break that first rule, and imperfect intervals have more harmony than perfect intervals. In measure 1 of musical composition example #2, the Sopranos and Altos move in parallel 6ths according to rule 28a. The non-chord tones of these parallel 6ths are on the offbeats according to rule 50a. The Tenors and Basses move in oblique motion to them according to rule 27b. In measure 2, the space between the first and second beat is filled out with quarter notes to get stepwise motion according to rule 41.

Describing that suspensions are his favorite part of composition, Fux provides rules to voice lead them. Rule 56a states that suspensions always need to resolve by resolving down from a second to a third. As an example, the suspension in the Tenor measure 3 is set up with a G in the previous measure and resolves down a step according to rules 55b and 56a. The same occurs in the Alto in measures 4 and 6. In measure 6 the Tenor resolves down to A instead of up to D to avoid direct motion into a perfect octave according to rule 22e.

Fux provides extra rules for how to approach a cadence, at the end of the musical line. From measures 6 to 7, the Soprano and Alto approach the final unison from an interval of a minor third according to rule 28b. They also begin the measure at an interval of a second according to rule 60b, prepared the measure beforehand with a G according to rule 56a.

The Joyful Shout

The musical score for "The Joyful Shout" is presented in two systems. The first system, starting at measure 57, shows a vocal line and a piano accompaniment in 3/2 time. The lyrics are "The joy - - ful shout the joy - ful shout". The second system, starting at measure 61, continues the vocal line with the lyrics "The joy - - ful shout of vic to - ry shout of". The score includes various performance markings such as slurs, accents, and dynamic markings. Above the vocal line, there are several colored circles with numbers (41, 50a, 41, 28a, 41, 41, 71, 28a, 41, 50a) indicating specific notes or measures. Below the piano line, there are also colored circles with numbers (28a, 41, 50a, 41, 71, 28a, 71, 50a, 41, 50a) indicating specific notes or measures. The score is enclosed in a blue rectangular frame.

Musical Composition Example #3) The Joyful Shouts

The "joyful shouts" is part of one of the verses of the Psalm. Here the piece changes from a 4/2 time signature to 3/2 to follow the tradition of Sacred Renaissance music of using this time change to create a sense of speeding up and dancing with joy. They did this because they wanted to speed up the meter instead of the tempo, and by having fewer beats in the measure, each downbeat does come faster. Other than the retardation at the end, this section follows all of Fux's rules as described in his book. As

you can see in Musical Composition Example #3, rules 56a and 60b are not present at the cadence resolving to victory.

Alleluia

3. Alleluia

A Allegro $\text{♩} = 140$

f

Al - le - lu - ia Al - le - lu - ia Al -

le - lu - ia Al - le - lu - ia

131 "The interval of the fourth in the inner voices is not very prominent; in fact, it rather assumes the character of an imperfect consonance."

5

le - lu - ia Al - le - lu - ia

le - lu - ia

Musical Composition Example #4) Alleluia

- 41 "It is satisfactory if the space between the two notes, a third distant from each other, is filled out."
- 42b "Consider the ending before you start to write."
- 50a "One must observe that if five quarters follow each other either ascending or descending, the first one has to be consonant, the second may be dissonant, and the third must again be consonant. The fourth one may be dissonant if the fifth is consonant"
- 56a "On this account dissonances should always resolve descending stepwise to the next consonances"
- 71 "The harmonic triad should be employed in every measure if there is no special reason against it."
- 97 "One must realize that much is prohibited in the upper register-being there more perceptible and more obvious to the ear-that may be tolerated in the lower register, because there it becomes somewhat blurred on account of the lowness and does not strike the ear as sharply. For highness accentuates and lowness subdues."

Musical Composition Example Key

The Alleluia is important because it is the section sung most often along with the Psalm refrain. The melody is based on the Psalm refrain but in 3/2 to fit the traditional motif of using the 3/2 time signature to speed up and represent joy and dancing in celebration.

While Fux's rules are fruitful to make music sound beautiful, he also recognizes that there are some circumstances where rules can be less strictly enforced. For rule 131, he says that the inner voices can move in parallel fourths because they are less prominent in the texture. This can be seen in measure 5 of musical composition example #4 between the Alto and Tenor.

Communion Antiphon

4. Communion Antiphon

Musical Composition Example #5) Communion Antiphon

- 41 "It is satisfactory if the space between the two notes, a third distant from each other, is filled out."
- 42b "Consider the ending before you start to write."
- 50a "One must observe that if five quarters follow each other either ascending or descending, the first one has to be consonant, the second may be dissonant, and the third must again be consonant. The fourth one may be dissonant if the fifth is consonant"
- 56a "On this account dissonances should always resolve descending stepwise to the next consonances"
- 71 "The harmonic triad should be employed in every measure if there is no special reason against it."
- 97 "One must realize that much is prohibited in the upper register—being there more perceptible and more obvious to the ear—that may be tolerated in the lower register, because there it becomes somewhat blurred on account of the lowness and does not strike the ear as sharply. For highness accentuates and lowness subdues."

Musical Composition Example Key

The Communion Antiphon is important because it is sung during Communion and sets the atmosphere to predispose the heart to be prepared to receive the Eucharist or not.

Just as the previous examples of suspensions followed Fux's rules, the many suspensions in this example follow those rules as well. By rule 56a, the voice in the Alto in measure 6.

Text

The following text is marked up to describe the leitmotifs used in the music.

Letters are cited next to words that are set with similar motifs that share the same letter.

Numbers are cited next to words or motifs that use the leitmotif of the same number

from the following leitmotif dictionary. The arrows show the shape that the passage of music is supposed to take.

Key:

-
- 2 = 2-part
 - 3 = 3-part
 - 4 = 4-part
 - h = homophonic
 - p = polyphonic
 - -> = a change in form over the course of the section
 - Letters indicate a phrase that matches other pieces of text with the same letter. Single or double quotes indicate that the letter is a variation of other instances of the same letter.
 - Underlines indicate the accented or emphasized syllable, which usually should fall on the downbeat.
 - Numbers indicate the use of a leitmotif from the leitmotifs section to be described later.

Motif Text

Scripture/Form

Entrance Antiphon:

4 Esdr 2:36-37

L Receive¹⁰ the joy of your glory⁶
L' giving thanks to God
L who has called¹⁰ you⁶
L' into the heavenly⁸ kingdom,¹
K alleluia.⁸

Communion Antiphon:

Cf. Jn 20:27

N Bring your hand¹²
N' and feel the place¹²
N" of the nails¹²
I'11 and do not be unbelieving

I11 but believing

K alleluia.⁸

Responsorial Psalm:

Ps 118:2-4, 13-15, 22-24

A. Give thanks^{R8} to the LORD,² for he is good,² his love¹² is everlasting.^Q

B. Let the house of Israel⁶ say,²

C. "His mercy^{P10} endures forever."^{Q'}

B. Let the house of Aaron⁶ say,²

C. "His mercy^{P10} endures forever."^{Q'}

D. Let those who fear the LORD¹ say,

C' "His mercy^{P10} endures forever."^{Q'}

A Give thanks^{R8} to the LORD,² for he is good,² his love¹² is everlasting.^Q

I was hard pressed^{O12} and was falling,^{P9} (2p, minor)

but the LORD² helped^{R8/IP10} me. (3p->4h, Major)

My strength⁶ and my courage⁶ is the LORD,^{T2} (4p->4h)

and he has been my savior.^{P10/IR8, 2} (4h)

The joyful^{P9} shout of victory^{O12} (3p->4h)

in the tents^{O12} of the just:^{T2} (2p->4h)

A Give thanks^{R8} to the LORD,² for he is good,² his love¹² is everlasting.^Q

The stone^{F2} which the builders rejected^{O12} (2p, minor)

has become^{O12} the cornerstone.^{F2} (3p, Major)

G By the LORD^{Q2} has this been done,^{IQ} (4p->4h)

H it is wonderful^{S, authentic cadence} in our eyes.^{half cadence} (4h)

G' This is the day the LORD^{Q2} has made,^{IQ} (4p->4h)

H' let us be glad^{S', half cadence} and rejoice in it.^{authentic cadence} (4h)

A Give thanks^{R8} to the LORD,² for he is good,² his love¹² is everlasting.^Q

Alleluia:

K **Alleluia, alleluia.**⁸

You believe^{I11} in me, Thomas, because you have seen me,^{J12} says the Lord,²

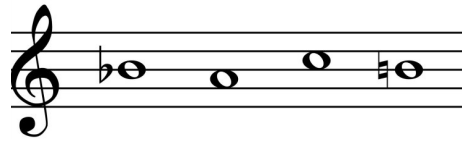
Blessed¹⁰ are they who have not seen me,^{J12} but still believe!^{I11}

K **Alleluia, alleluia.**⁸

Motives

A motive is a small musical idea that is repeated in multiple different ways or contexts throughout the music ("What Is a Motive"). One example of a motive is when Bach uses the "BACH" motif of B flat, A, C, and B natural. (Oron) Here the motive is just being used as a way to sign the work, instead of representing a theme. Another motive commonly used is the motive of the key of Eb Major representing royalty. In Handel's

Messiah, in movement 34 “Lift up your heads, o ye gates”, he uses an Eb Major chord in measure 30 when the choir mentions Christ’s Lordship even though Eb Major is not in the same key as the rest of the piece. Motives were used throughout the compositions in a similar style to how motives were used here.



Theory Example #1) BACH (Bb-A-C-Bn) motif

27

27

The Lord of Hosts,

The Lord of Hosts,

The Lord of Hosts,

The BACH motif (Bb-A-C-Bn) is highlighted in the vocal line.

Theory Example #2) royal Eb Major motif

1. The Father

2. The Son

3. The Holy Spirit

4. The Trinity

5. Mary

6. Humanity

7. A Trial Or Burden

8. A Prayer

9. Falling

10. A Gift From Heaven

11. Belief

12. Love/Crucifixion

13. Victory/Resurrection

14. Forever/Everlasting - Melisma

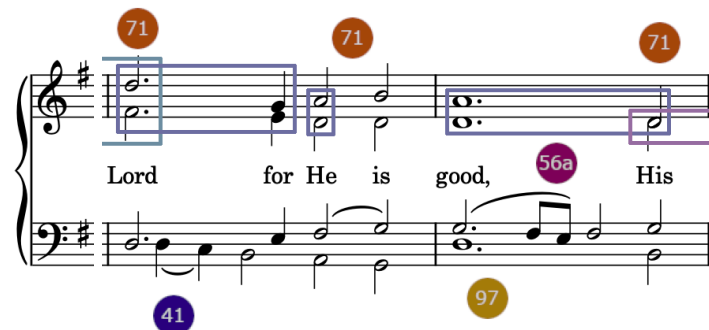
The royal Eb Major motif (Eb-Eb-Eb-Eb) is highlighted in the vocal line.

All Leitmotif Examples



Leitmotif Examples #1-4) the Trinity motives

The leitmotif of the Father is the unison and the octave. The unison note is the basis of all music, so all notes depend on it. This encompasses everything the same way that the whole universe depends on the Father. Here the one unison note is the leitmotif of the Father because this way every note in the whole piece is made from this motif, just as how God the Father is the source of all existence. It has the benefit that the unison is essentially the same as the octave which can be included in ways more easily visible.



Music Example #1) "The Son" motive, Psalm mm.2-3

The leitmotif of the Son is the fifth or scale degree 5. Scale degree 5 is the furthest diatonic note both by distance and by harmony from scale degree 1. This makes it a perfect candidate to double as a motif of the Passion and the Resurrection, which are a part of Christ's body.

The leitmotif of the Holy Spirit is the fourth or scale degree 4. The fourth is the distance between scale degree 5 and scale degree 1 when their octaves are inverted, completing the octave. This works perfectly for the Holy Spirit who is the love shared between the Father and the Son.



Leitmotif Examples #4) the Trinity

The leitmotif of the Trinity is scale degrees 1, 5, and 8 stacked together. Since the fourth is the distance between scale degree 5 and scale degree 1 when their octaves are inverted, this motif contains motifs 1-3 perfectly integrated together. This is perfect for the Trinity, as the Trinity is made up of the three persons the Father, the Son, and the Holy Spirit. An extra benefit of these motifs is that these intervals are all perfect intervals, and there are no other ones besides these, reflecting the perfection of God and the imperfection of everything else except in God.



Leitmotif Examples #5-6) the human motives



Music Example #2) use of the human motive

7. ATrialOrBurden 8. APrayer 9. Falling 10. AGiftFromHeaven 11. Belief

Leitmotif Examples #7-11) the motives of the relationship between high and low

A Andante ♩ = 100 50a 28a 71

71 Give thanks to the Lord

41

Music Example #3) “A Prayer” motive, Psalm mm.1-2

As seen in leitmotif 8, a prayer is five consecutive notes ascending by step. These notes fill out the fifth from leitmotif 2, the Son. This way the prayer is raised up to the Lord (leitmotif 2, the Son). Here in musical example #2, the leitmotif of a prayer is the notes that connect “thanks” to “Lord” in both the Soprano and Alto lines. Here the leitmotif of the Son, scale degree 5, is reached at the note with the text “Lord”.

You be - lieve

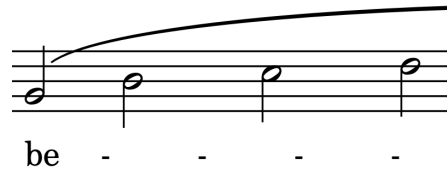
Music Example #4) “Belief” motive.

Alleluia mm.9-10

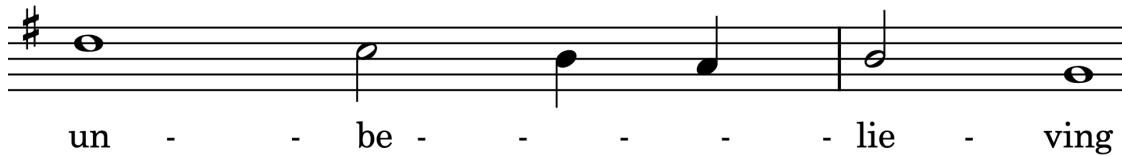
be - lieve!

Music Example #5) “Belief” motive.

Alleluia mm.20-2



Music Example #6) “Belief” motive, Communion Antiphon mm.11

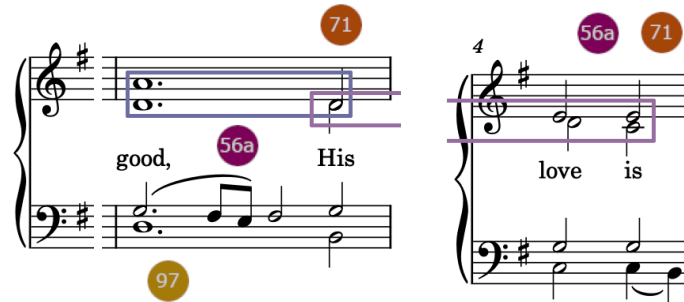


Music Example #7) “Belief” motive (reverse variation), Communion Antiphon mm.9-10

The leitmotif 11, belief, is the same as motive 8, the prayer, except omitting the second note. This omission leaves a leap of a third between the first two notes. This works well because belief is a prayer but it takes a leap of faith. This way the belief is raised up to the Lord. Here in musical examples #3-#5, as seen in the composition, one can see the belief leitmotif is raised up. When the text says “unbelieving” in #6, the belief leitmotif is reversed because the lack of belief does not reach the Son, scale degree 5, the same way that belief does.

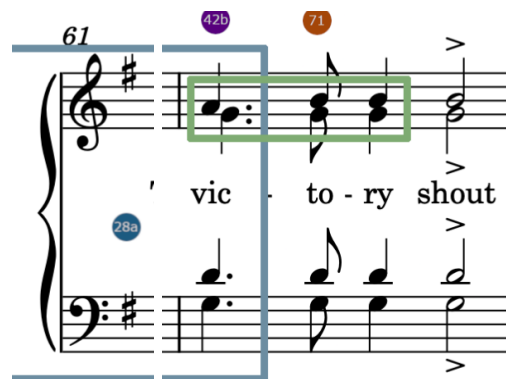


Leitmotif Examples #12-13) the love motives



Music Example #8) “Love/Crucifixion” motive, Psalm mm.4

The leitmotif of love is a ligature. The ligature, more commonly known as a suspension, is when the lower of two notes is delayed in descending. In dissonant ligatures, this leaves the beginning with a dissonant interval of a second, a seventh, or a ninth, and the lower note (when at the closest octave) resolves down by step into a third, sixth, octave, or unison. The descent by step is the same as in motive 9, or falling, which is fitting because love is willing the good of the other, which sometimes costs you something so that thing falls away from you. In Christ’s Crucifixion, blood and water fell from Him. It is also fitting that the ligature resolves to a third, because love is human. Christ’s humanity is what enabled Him to love the world by offering Himself in the Crucifixion. Here in musical example #7, the ligature for the leitmotif of love can be seen between the Soprano and Alto.



Music Example #9) “Victory/Resurrection” motive, Psalm mm.63

Where suspensions are prepared to resolve down in melancholy, the Victory leitmotif bounces up in triumph. These leitmotifs were chosen to be opposites of each other because the words they accompany, “He was rejected” and “The joyful shout of victory”, frame the whole verse with a reverse symmetry.

11

71

56a 60b

28b 42b 71

- e - - - - - ver

41

22e "Martini reduces them to one: the only progression forbidden is direct motion into a perfect consonance."

28a "More imperfect than perfect consonances should be employed. Excepted are the beginning and the end which both must consist of perfect consonances."

Music Example #10) melisma motive, Psalm mm.5-7

The first abstract motif is in music example #10, the melisma. A melisma is any time a syllable is spread out over more than one note. Since they go on and on, it makes them a perfect representation of long-lasting word like “eternity.” This motive is a tradition composers have been using since before the Renaissance, such as by Leonin and Perotin.

The last abstract motif is the use of the 3/2 time signature. This time signature represents rejoicing and dancing, and was commonly used in medieval music to create a sped-up feel, since tempo as is known today was not invented yet.

Conclusion

Johann Fux's rules on counterpoint in his *Gradus Ad Parnassum* demand that the composer pays attention to detail. While at first it might seem challenging to follow the rules suggested by Fux, their limitations encourage creativity. While some patterns of voice leading can be easy to turn to by default, such as having the Bass and Tenor move in parallel fifths, the rules disallow that and force the composer to come up with more interesting voice leading options. The rules also help each voice to move independently with its own melody, organically adding richness and variety to the harmony. Even though it is more challenging for a composer than just writing whatever they want, the fruits of that challenge are worthwhile.

After singing the piece, it can be said that the Fux's rule to make parts easy to sing was followed by this piece. Bass Kieran Bradley was able to learn and sing the whole Bass part with only 2 days of notice.

Both Professor Hatch and Sean Redrow revealed that the Psalm was too long, and was thus not appropriately oriented to serve the Mass. Professor Hatch explicitly stated that it was too long. Sean moved the Psalm to be sung during the Offertory, and replaced it with an Anglican chant of the same text, indicating that it was not fit for the congregation to follow along. In this respect the project was a failure, but this problem was inherited from the style of Renaissance polyphony. During the time of the Renaissance, it was a common problem for music for the Mass to be too hard to understand, and the common length of songs in that period does not fit the needs of the new liturgy, the Novus Ordo Mass. The fact that the style of Renaissance polyphony did not help people understand the Mass was one of the issues that Martin Luther brought

up, so it was one of the problems that was dealt with by the counter-reformation in the Catholic Church through the council of Trent. “As to the reformer’s reforms, they were meant to make the church ritual generally, and church music particularly, a participatory, active experience, in keeping with Luther’s vision of the church as a community of all believers.” (Weiss, 2008) “However, the threat of the Reformation in the North spurred the Roman Church to undertake a series of internal reforms, known collectively as the Counter Reformation, which had many profound and far-reaching effects on music.” (Weiss, 2008) “In the Council's immediate aftermath, reformers such as Paleotti and Borromeo once again focused on the issue of intelligibility, affording it a quasi-official status that seems to have quickly become widely accepted as “*iuxta formam concilii*.”” (Monson, 2002) After the council of Trent, people adopted a “spirit of the council of Trent” to reform music even though music is barely mentioned in the official documents themselves. If anyone were to continue this project or to do a similar project, it is advised that they study the liturgical compositions of Paul Jernberg and how his work organically participates in the living tradition of Sacred Renaissance Polyphony and Sacred Liturgical Music in general, while being obedient to the needs of the Mass and the congregation.

Acknowledgements

Thanks to Professor Rohde for advising this project, to Professor Hatch and Sean Redrow for helping the project to be sung, to Professor Blumhofer for helping revise the project, to Paul Jernberg for his great knowledge of sacred music, to all the

singers who helped sing this project, and thanks be to God and the Catholic Church for passing down this beautiful tradition of sacred music.

Audio Recording

<https://youtube.com/playlist?list=PLUw2msu4NyHntJaJzFYEDix3y-xAGnbqQ>

Appendix

Terminology

- Unison - When two notes are the same
- Third - An interval 2 notes apart in a key, 3 or 4 half-steps apart
- Fifth - An interval 4 notes apart in a key, 7 half-steps apart
- Sixth - An interval 5 notes apart in a key, 8 or 9 half-steps apart
- Octave - When one note has twice the frequency of another
- Second - An interval 1 notes apart in a key, 1 or 2 half-steps apart
- Fourth - An interval 3 notes apart in a key, 4 or 5 half-steps apart
- Seventh - An interval 6 notes apart in a key, 10 or 11 half-steps apart
- Consonance (20)² - An interval that sounds stable
- Dissonance - An interval that sounds unstable
- Direct motion - When two notes move in the same direction
- Contrary motion - When two notes move in the same direction
- Oblique motion (21) - When one note stays the same while the other changes

² The numbers given by these rules indicate the page of Fux's *Gradus Ad Parnassum* on which the rule is written

- Perfect consonance - An interval without a major or minor tonality
- Imperfect consonance - An interval that can have a major or minor tonality
- Thesis - downbeat of the hand (41)
- Arsis - upbeat of the hand (41)
- Second species - “two half notes are set against a whole note” (41)
- Diminution (old use) - “filling out the space between two notes” (41)
- Third species - “a composition having four quarter notes against a whole note” (50)
- Fourth species - “two half notes are set against a whole note. These half notes are on one and the same tone and are connected by a tie, the first of which must occur on the upbeat, the second on the downbeat. This species is called *ligature* or *syncopation*” (55)
- Fifth species - “This species is called florid counterpoint. As a garden is full of flowers so this species of counterpoint should be full of excellences of all kinds, a plastic melodic line, liveliness of movement, and beauty and variety of form. Just as we use all the other common species of arithmetic—counting, addition, multiplication and subtraction—indivision, so this species is nothing but a recapitulation and combination of all the preceding ones” (64)
- Harmonic triad - “a combination of the intervals of the third and the fifth” (71), “Fux applies the term harmonic triad only to a chord in root position: 135, not to the inversion of this chord for which, today, the term is also used.” (71)
- Pedal point - “the bass remains ... in the same position” (98)

- Homophonic, Homophonically - Singers singing different parts still sing the same words at the same time
- Melisma - One word is sung across multiple notes
- Love - to will the good of the other

Fux's Rules

Two Parts

First Species

- "First rule: From a perfect consonance to another perfect consonance one must proceed in contrary or oblique motion" (22)³
- "Second rule: From a perfect consonance to an imperfect consonance one may proceed in any of the three ways" (22)
- "Third rule: From an imperfect consonance to a perfect consonance one must proceed in contrary or oblique motion" (22)
- "Fourth rule: From an imperfect consonance to another imperfect consonance one may proceed in any of the three ways" (22)
- "Martini reduces them to one: the only progression forbidden is direct motion into a perfect consonance." (22)
- "The possibility of vocal performance should always be taken into consideration." (27)
- "Contrary and oblique motion should be employed as often as possible, since by their use we can more easily avoid mistakes." (27)
- "More imperfect than perfect consonances should be employed. Excepted are the beginning and the end which both must consist of perfect consonances." (28)

³ The numbers given by these rules indicate the page of Fux's *Gradus Ad Parnassum* on which the rule is written

- “Finally, it should be noted that in the next to last bar there must be a major sixth if the cantus firmus is in the lower part; and a minor third, if it is in the upper part.” (28)
- “The seventh degree has to be raised in the Dorian, Mixolydian, and Aeolian modes.” (28)
- The first note of the cantus firmus establishes the mode (31)
- “The unison should nowhere be employed in this counterpoint, except at the beginning and the end” (38)

Second Species

1. “It is satisfactory if the space between the two notes, a third distant from each other, is filled out.” (41)
2. “The next to last measure should have a fifth, followed by a major sixth, if the cantus firmus—or chorale melody—is in the lower voice. If the cantus firmus is in the upper voice, there should be a fifth followed by a minor third.” (42)
3. “Consider the ending before you start to write.” (42)
4. “It should be said that the skip of a third cannot prevent a succession of two fifths or two octaves.” (43)
5. “It is different if the skip is of a greater interval; eg., a fourth, fifth, or sixth. In such case the distance between the two tones causes the ear to forget, as it were, the first note on the downbeat until the next note on the downbeat.” (43-44)
6. “One may use a half rest instead of the first note.” (45)
7. “If the two parts have been led so close together that one does not know where to take them; and if there is no possibility of using contrary motion, this motion can be brought about by using the skip of a minor sixth or an octave.” (45)
8. “But obviously in this mode the fifth, being dissonant, may not be used on account of being mi against fa. Therefore I wrote a sixth rather than a fifth.” (46)

Third Species

- “One must observe that if five quarters follow each other either ascending or descending, the first one has to be consonant, the second may be dissonant, and the third must again be consonant. The fourth one may be dissonant if the fifth is consonant” (50)
- “This does not hold if, firstly, the second and fourth notes are consonant, in which case the third note may be dissonant” (50)
- “The third note, the dissonance, in the previous examples is nothing but a diminution of the skip of a third.” (51)
- “Which is called *cambiata* by the Italians. It occurs if one goes from the second note—when dissonant—to a consonant note by skip” (51)
- “Mi against fa, and it seemed to me that these flats would not interfere with the diatonic system since they were not used functionally, but nonessentially.” (54)

Fourth Species

- “The consonant ligature results when both half notes, the one on the upbeat and that on the downbeat, are consonant.” (55)
- “The dissonant ligature results when the half note on the upbeat is consonant (which must always be the case); the half note on the downbeat, however, is dissonant” (55)
- “On this account dissonances should always resolve descending stepwise to the next consonances” (56)
- “It must be resolved to the consonance which would occur on the downbeat of the following measure if the retardation were removed.” (56)
- “Therefore, if the cantus firmus is in the lower voice, the interval of the second must be resolved to the unison, that of the fourth to the third, that of the seventh to the sixth, and that of the ninth to the octave.” (56-57)

- “In the case of fifths, however, the retardation can mitigate the effect of the parallel fifths. Successions of fifths may therefore be used with syncopations” (57)
- “These passages are correct because they sound well even if the retardations or ligatures are removed” (58)
- “One will occasionally come upon a measure where no ligature can be introduced. In such cases one must write plain half notes until there is an opportunity to use syncopation again.” (60)
- “For the rest, in this species a seventh resolving to a sixth should appear in the next to last measure if the cantus firmus is in the lower voice. If the cantus firmus is in the upper voice one should conclude with a second resolving to a third and finally moving into the unison.” (60)
- “Two eighths may occasionally be used in the next species; that is, on the second and fourth beats of the measure—but never on the first and third.” (63)

Fifth Species

- “You have not only paid close attention to writing a good melodic line but have also, in approaching the downbeats, made use of oblique motion—or syncopations—in most instances. This expedient I should like to recommend to you further, since it brings about the greatest beauty in counterpoint.” (65)
- “I want to urge you to work constantly and with special diligence in this species above all others.” (65)
- “The melodic line seems to lag if two quarters occur at the beginning of the measure without a ligature following them immediately, it will be better—if one wants to write two quarters at the beginning of the measure—to connect them by ligature with the notes following, or else to make it easier for these two quarters to go on by using some additional quarters, as is shown in the example.” (67)

Three Parts

Note against Note

- “The harmonic triad should be employed in every measure if there is no special reason against it.” (71)
- “The chords 138 and 168 are here considered equal in use; no attention is paid to the change of root.” (72)
- “But who cannot see that the first—that is, my example—follows the natural order and principle of variety more closely?” (73)
- “This c, as it occurs in its proper place, establishes the harmonic triad. If it is transposed an octave higher and the other voices remain where they are, a sixth will necessarily result.” (74)
- “The rules should be observed reckoning not from the bass alone but, if possible, also from any one part to any other” (76)
- “Already in three part composition one may depart from the rigorous observance of the rules in leading the other voices above the bass if there is a serious reason for doing so.” (76)
- “One may occasionally depart from the strict rules in three part composition, in order to avoid worse awkwardness” (78)
- “If you mean the minor third don’t you realize that it is not capable of giving a sense of conclusion? And if you mean the major third, don’t you realize that the mode itself contains the minor third, that is, f without the sharp, and that the ear therefore has become accustomed to this characteristic of the melodic line throughout the course of the cantus firmus and would be somewhat disturbed by the raised third at the end? Therefore it is advisable to omit the third altogether.” (80)

Half Notes against Whole Notes

- “A half note may, for the sake of the harmonic triad, occasionally make a succession of two parallel fifths acceptable—which can be effected by the skip of a third” (86)
- “That a major third appears in the final chord of the third example may be justified by the cogent reason that there the fifth could not be used in the upper voice because an immediate succession of two fifths would then result.” (88)

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