A Striking Effect: Chromatic Techniques in Baroque Variation Sets and Their Relationship to Late Madrigals

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ABSTRACT

One of the most widely used approaches in tonal music, variation technique has informed centuries of composition. Beginning with Jan Pieterszoon Sweelinck, the Baroque keyboard variation set was a prominent form; one particular multimovement variation set, commonly called the "partita," included various treatments of a given theme, sacred or secular, in a display of compositional variety. One treatment occurs with some regularity and involves a harmonization of a chorale tune in which chromaticism is pervasive, having a non-diatonic note on every beat or including key areas that are more distant than was customary.

This dissertation explores the chromatic variation with one broad question: how is this chromaticism generated? Are there particular aspects of a chorale melody that give rise to this treatment? What are the main compositional techniques that constitute a chromatic movement? Using detailed analyses of four pieces—Johann Sebastian Bach, *O Gott du frommer Gott*, BWV 767/7; Johann Pachelbel, *Was Gott tut, das ist wohlgetan*, variation 4; Pachelbel, *Alle Menschen müßen sterben*, var. 7; and Samuel Scheidt, *Da Jesus an dem Kreuze stund*, verse 6—I find six unifying principles that contribute to the chromatic nature of these movements.

Then, using Pachelbel's two movements as models, I compose chromatic variations on two chorale tunes, *Freu' dich sehr, o meine Seele* and *Jesu, meine Freude*, which did not previously receive such treatment; the six principles are used to inform my own composition, and this exercise is a way to test the efficacy of those principles. Finally, a precedent for this high level of chromaticism is sought in the late-sixteenth-century madrigal, using several Italian and English pieces to draw a connection to the Baroque music that followed in the next century and a half.

ACKNOWLEDGEMENTS

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CHAPTER 1: INTRODUCTION

1.1   Background and Rationale

The variation set is one of the most pervasive forms in music: not only did it "[play] a vital role in the emergence of 16th-century instrumental music," but it has also withstood the test of time, having been used by composers as chronologically diverse as Bach, Mozart, Beethoven, Schubert, Brahms, Stravinsky, and Schoenberg, among countless others.[1] Furthermore, although the variation set is a discrete formal type, the idea of musical variation "reflects a technique and process important in nearly all music."[2] The variations of one composer can showcase a number of different compositional techniques, from the elaborate melodic figurations in Mozart's *Ah, vous dirai-je, Maman* to the devilish fugue in Liszt's *Totentanz*. Thus, the variation set—particularly the keyboard variation set—provides an excellent snapshot of a compositional mindset, either individual or collective, and its self-contained variety encourages analysis from a number of different angles.

This dissertation concerns itself with variation sets of the Baroque era, from the time of Jan Pieterszoon Sweelinck (1562–1621) to that of Johann Sebastian Bach (1685–1750). During this period, variation sets had a strong connection to liturgical music, often based on Lutheran chorales, and examples of them are plentiful; due to the multitude of pieces in this genre, we can categorize pieces by their compositional style, detect large-scale patterns, and draw conclusions based on our observations. One style that is presented with some frequency in these variation sets

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[1] Peter Dirksen, *The Keyboard Music of Jan Pieterszoon Sweelinck: Its Style, Significance and Influence* (Utrecht: Vereniging voor Nederlandse), 124.
[2] Elaine Sisman, "Variations," *Grove Music Online* (Oxford: Oxford University Press), 1, https://www.doi.org /10.1093/gmo/9781561592630.article.29050.

is the chromatic variation, a setting of the theme nearly saturated with chromaticism, markedly different from the other variations.

I seek to answer a number of questions related to these movements: Are there elements of a chorale tune that make it conducive to chromatic treatment? Can certain governing principles regarding melody, harmony, and counterpoint be identified? How does each composer approach the chromatic variation? My strategy for answering these questions is twofold: first, I will analyze pieces that are representative of the chromatic-variation style. Second, I will offer newly composed chromatic movements based on chorale tunes that previously did not receive chromatic treatment; this model composition is an important research tool because it tests the value and efficacy of my generalizations and principles for a grammar of this style.

Then, I will explore a possible historical precedent for such a high degree of chromaticism. In fact, the late madrigal, from the second half of the sixteenth century into the beginning of the seventeenth, contains a number of chromatic gestures that seem to anticipate those in the variation sets. This dissertation examines chromaticism in madrigals with a particular focus on those chromatic techniques in madrigals that transferred to variation sets, thus providing a greater understanding of these idiosyncratic movements.

1.2   Chapter Outline and Methodology

For the purposes of this dissertation, I define "pervasive chromaticism" as the very frequent use of pitches that are outside the diatonic scale, particularly if modal mixture or a high level of saturation of such pitches is present. All of the chromatic movements in this dissertation have non-diatonic pitches on nearly every beat, implying keys both close to the tonal center and farther away from it.

Chapter 1 offers an overview of both the variation set and the madrigal, including their developmental arcs, major composers, and general characteristics. In addition, I review the existing literature—books, articles, and other sources—on chromaticism in these two genres, as well as some useful material on chromaticism in general.

Chapter 2 is an in-depth discussion of four representative chromatic variations: Johann Sebastian Bach, *O Gott, du frommer Gott*, variation 7; Johann Pachelbel, *Alle Menschen müßen sterben*, var. 7, and *Was Gott tut das ist wohlgetan*, var. 4; and Samuel Scheidt, *Da Jesus an dem Kreuze stund*, verse 6. One analytical method is the creation, when appropriate, of a completely diatonic chorale harmonization derived from its chromatic counterpart in an effort to discover how it is elaborated chromatically. I use my analyses to identify a broad set of principles that apply, to varying degrees, to these movements; these principles involve both the chorale tune itself and the harmonization thereof. Of special interest is the search for characteristics of the chorale tunes, including possible contrapuntal techniques, that could lead the composer to a chromatic harmonization.

Chapter 3 uses the previously identified principles to inform newly composed chromatic variations. Each composition is accompanied by an explanation as to how it incorporates those principles, and I show how the different elements of the chorale tune can combine to create new chromatic pieces, with a step-by-step rationale for compositional decisions.

Chapter 4 explores examples of late madrigals that can serve as precursors to the Baroque variations: Carlo Gesualdo, *Moro lasso*; Luca Marenzio, *Solo e pensoso*; Claudio Monteverdi, *Rimanti in pace*; Thomas Weelkes, *The Andalusian Merchant*; and John Wilbye, *Oft have I vowed*. Since a complete study of chromaticism in madrigals is outside the scope of this dissertation, attention is given to particular features that emphasize or anticipate the principles

shown in Chapters 2 and 3, in addition to elements that do not appear in the Baroque movements. The language used to compare chromatic techniques of madrigals and Baroque variation sets will seem anachronistic, as the concept of, for instance, applied dominants did not exist for the madrigalists; however, this approach is necessary to facilitate the finding of common ground between the two genres, even if the terminology is tipped toward the later repertoire.

CHAPTER 2: GENRE AND LITERATURE REVIEW

2.1   Variation Set: Overview

The variation set has been one of the most influential genres for centuries, spanning multiple genres and styles. Sisman notes that "the possibility that short pieces for dancing were repeated with improvised variations," such as the pairs of dances *La Manfredina* and *Lamento di Tristano*, each of which the second features "a quicker, compressed and somewhat ornamented version of the first dance."[1] For an approach that involved instrumental figurations other than dance music, Guglielmo Ebreo, writing in *De pratica seu arte tripudii* (1463), encourages players in an ensemble each to play a unique "air" based on the same *ballo*.[2] The first example of keyboard variation technique is found in a late-fourteenth-century rondeau, *Di molen van pariis*, which appears in an original form and two ornamented versions.[3] Intabulations from the fifteenth and sixteenth centuries also display "varied treatments of vocal works," although these variations could be separate pieces, rather than individual components of a single piece.[4] In any case, these pieces all have the same method of variation, which is the addition of figuration to the upper part; it is in the Spanish *diferencias* (variations) of the sixteenth century that one begins to see a more deliberate and sophisticated approach.

The *diferencias* have a common repertoire of secular themes on which to make variations, namely, *Guardame las vacas*, *Conde claros*, and a proto-*folia* melody. In the anonymous *Cinco diferencias sobre Las vacas*, the homophonic theme is ornamented with

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[1] Sisman, "Variations," 1.
[2] Ibid.
[3] Willi Apel, *The History of Keyboard Music to 1700*, trans. Hans Tischler (Bloomington: Indiana University Press, 1972), 262.
[4] Ibid.

figurations that begin in the upper voice but zigzag through the texture; a similar work in the same manuscript, *Cinco diferencias sobre Conde claros*, is an early example of continuous variations, in which each variation on the relatively short theme, which ends on the dominant, moves without pause into the next.[5]

The variation sets of Antonio de Cabezón (1510–1566) begin not with a statement of the theme but with the first variation, and between each variation is a transition. The structure and harmonic plan of the theme are essentially constant throughout each of Cabezón's works, with some slight deviations, so most of the changes from one variation to the next are initiated by melodic differences. Most of his variations have the melody in the uppermost voice, but, occasionally, when the melody is in a lower voice, there is a "freely invented melody" above it that renders the theme unrecognizable.[6] One stylistic feature that Cabezón introduced in *Otras diferencias de Vacas* was the repeated imitative pairing of voices, also seen in the works of the Sweelinck and Scheidt, in addition to virtuosic figurations at the very end of the piece. In the world of liturgical music, "Cabezón's are the earliest documentation of the use of the organ in conjunction with the psalmody of the Offices," and his *Fabordon y glosas* presents four versets for each psalm tone, a progenitor of the chorale variation set in its figural elaborations of a given harmonization.[7]

Toward the end of the sixteenth century, variation forms began to appear in Italy, Germany, and England, all sharing the *passamezzo* theme, either in minor (*antico*) or major (*moderno*). The *passamezzo*, an eight-measure chord progression in a minor (*antico*) or major (*moderno*) mode that served as a harmonic formula, was uniquely suited to variation technique

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[5] Ibid., 263-264.
[6] Ibid., 267-268.
[7] Ibid., 135.

due to the wide spacing of structural notes and the possibility of improvising a bass line in addition to the melodic figurations; in fact, almost two hundred variations on the *passamezzo* exist, from twenty *antico* variation sets and twenty *moderno*. The Italian variations were especially innovative, such as Andrea Gabrieli's (1533–1585) "change in style, technique, and motif within a single variation" and Giovanni Picchi's (1571–1643) virtuosic passages, complete with a written-out trill on D that, in D minor, starts on E♭.[8]

In the hands of William Byrd (1538–1623), the variation set, based exclusively on English folk music, flourished, with novel techniques not seen even in the prolific output of Cabezón. Rather than applying figuration to the entire theme, Byrd used it sparingly to elaborate certain notes or fragments, with a preference for "free figurations . . . as a contrast to or as a background for the theme."[9] He also created motivic variation by either having two voices alternate a motive regularly or by having all voices imitate a motive at irregular intervals; although the motive often stems from the theme itself, it can change character within a single variation.

According to Apel, "Sweelinck [1562–1621] may be regarded as the creator of the chorale variation, which plays an important role in the subsequent evolution of the organ chorale, culminating in Bach's chorale partitas."[10] The variations are mostly based on Lutheran chorales, although some use psalm tones and antiphons, and each variation states the melody in a straightforward fashion in one voice, without imitative treatment or fore-imitation. While he most often used a three-part texture, Sweelinck's four-part chorale settings are more indicative of his skills as a variation composer, with mechanical figurations "transmuted into pure

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[8] Ibid., 274-275.
[9] Ibid., 281.
[10] Ibid., 333.

playfulness" and a variety of affective techniques, such as the severe figurations and Phrygian harmonies in *Erbarm dich mein*.[11]

One of Sweelinck's students, Samuel Scheidt (1587–1654), made significant contributions to the repertoire of chorale settings, which make up the bulk of *Tablatura nova* (1624); most of them are chorale variations. For Scheidt, the role of imitation was an important one in the chorale settings, with an entirely new form, the imitative *bicinium*, and other contrapuntal devices, such as greater use of canonic techniques and fore-imitation. In addition, he continued Sweelinck's practice of ornamenting the chorale tune with "diverse . . . but always purely geometric and decorative" figurations, as opposed to making the elaborations serve expressive purposes, as in Jacob Praetorius's works.[12] Heinrich Scheidemann (1595–1663), also a student of Sweelinck, wrote several chorale variation sets, with two to four variations each; other pieces in this style were composed by Michael Praetorius, Matthias Weckmann, and Franz Tunder.[13] I explore this tradition further in the next chapter with an analysis of Scheidt's *Da Jesus an dem Kreuze stund*, verse 6, which is unique among the *Tabulatura nova* chorales in its accompaniment of the tune with chromaticism.

The other pieces in this dissertation are the culmination of the tradition of the chorale partita in multiple movements, consisting of a given theme plus several standalone variations. This form has close ancestors in the partitas of Girolamo Frescobaldi (1583–1643), published in 1615 as part of *Toccata e partite, primo libro*, which feature rapid motivic changes and include as their movements different dance forms, all variations on secular melodies. In fact, Frescobaldi

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[11] Ibid., 334-335.
[12] Ibid., 362.
[13] David Z. Anderson, "The Chorale Partita in the Baroque Period" (DMA diss., University of North Texas, 1974), 13-14.

was "the principal composer of variations and variation-inflected instrumental genres in the early 17th century in Italy," writing not only the first set of keyboard variations on the *chaconne* but also what was possibly the first variation set on an original theme.[14] Frescobaldi's compositional approach is mirrored in Johann Jakob Froberger's (1616–1667) *Auff die Mayerin*, a dance suite that is actually a set of variations based on the eponymous tune, the sixth variation of which contains pervasive chromaticism seen in chorale partitas.[15]

Georg Böhm (1661–1733) played an important role in transferring this form to the sacred world such that the chorale is "handled like a secular song, usually employing only various kinds of figuration."[16] That is, the theme appears in only one voice at a time and is not treated imitatively, making it more similar to secular variations than, for instance, Scheidt's chorale variations. However, Böhm's variations exhibit a number of different techniques and arrangements; for example, the last line of *Herr Jesu Christ*, variation 3, is expanded from four measures to ten, and the second variation of *Aus tiefer Not* "resembles a tenor aria from a chorale cantata more than an organ chorale."[17] The various creative ways in which Böhm treated the chorale tune make his chorale partitas quite adventurous, more so than Pachelbel's; his output is a rich tapestry of motivic development, echo effects, and textural contrasts.

Johann Pachelbel's (1653–1706) chorale partitas belong to the collection *Musicalische Sterbens-Gedancken*, which was published in 1683 after the composer had lost his wife and child; the original print is no longer extant, and a later manuscript was destroyed during World War II. Apel notes "awkward figures" that "suggest that these variation sets are early works,"

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[14] Sisman, "Variations," 1.
[15] Apel, *History*, 560.
[16] Ibid., 632.
[17] Ibid.

and the variations are similar to the aforementioned *Auff die Mayerin* of Froberger, although some additional techniques, like bicinium and motivic shifts, are present.[18] After Pachelbel, there were several lesser-known composers who wrote chorale partitas, such as Nicolaus Hasse, Johann Krieger, and Vincent Lübeck. The next, and last, major composer before Bach to write them was Johann Gottfried Walther (1684–1748). Walther's thirteen chorale partitas use dance rhythms, as Dieterich Buxtehude had several decades earlier, and "ornamentation of the melody in the style of Böhm."[19] Indeed, Walther did not innovate on the form, preferring to use the models of his predecessors.

Johann Sebastian Bach's (1685–1750) chorale partitas "represent the culmination of the development of the form."[20] Most of these works display Böhm's influence, such as the dense chordal theme of *O Gott, du frommer Gott* and the ornamented second variation of *Ach, was soll ich Sünder machen. Sei gegrüßet, Jesu gütig* stands out for its strict four-part chorale setting and the variety of techniques used in its variations. David Anderson calls the chorale partita a "hybrid type," resulting from a fusion of the chorale prelude and the secular variation set; Bach's works, the height of this form's development, were the last in a long line of pieces whose composers sought to discover unique, creative ways in which melody, harmony, and motive could interact in service of variation techniques.[21]

2.2   Sixteenth-Century Madrigal: Overview

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[18] Ibid., 658.
[19] Anderson, "Chorale Partitas," 24-25.
[20] Ibid., 26.
[21] Ibid., 30.

The Italian madrigal began as a development in Italian secular music, setting poetry with eight- or eleven-line stanzas, in the fourteenth century, before a lull in compositional output in which improvised singing flourished. In the sixteenth century, composers were interested in "[reviving] ancient poetic values and a sophisticated musical language," but this new iteration of the madrigal was unrelated to that which had taken place two centuries prior.[22] In the year 1520, *Musica di messer Bernardo Pisano sopra le canzone del Petrarcha*, a collection of madrigals composed by Bernardo Pisano (1490–1548), was published; it was the first madrigal book to feature music by a single composer, as opposed to an anthology, and, while not explicitly called madrigals, "they show experimentation with freer poetic forms and imitative writing."[23] Since Pisano worked in Florence and Rome, these pieces may have been heard and known by the early madrigal composers.[24]

While the word "madrigal" did not appear in printed music until 1530, composers had been writing music of this genre for several years, and several important early madrigalists helped prepare future generations. Manuscripts of works by Philippe Verdelot (1475–1552) include four-, five-, and six-part settings that display tremendous textural and dramatic variety; for example, in *Madonna non so dir*, the effect of "yes" and "no" answers to the questioning tone of the poet is created with "various two- and three-part groups" within the five-voice texture. In addition, the madrigals have varying degrees of contrapuntal interest, from chordal settings like *I vostri acuti dardi* to imitative works like *Madonna non so dir*. Costanzo Festa (1495–1545) had worked in France before returning to his native Italy; the chanson, with which he would have

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[22] Jerome Roche, *The Madrigal* (Oxford: Oxford University Press, 1990), 2.
[23] Ibid., 3.
[24] Ibid., 3-10.

been intimately familiar, "provided a model for early madrigal composers."[25] His three-voice

pieces became popular for their pedagogical usefulness, and his four- and five-voice madrigals

employ text painting, like the slowing and quickening to accompany the words "adagio" and

"fretta" in *Durò è il partito*. Verdelot's madrigals were first published in 1533; by 1540, the

printing of madrigals had increased significantly, including four volumes of Jacques Arcadelt

(1507–1568) in 1539. *Il bianco e dolce cigno*, one of Arcadelt's most enduring works, is mostly

homophonic until the end, when the voices are more independent; another technique, "repeating

the music for the poetic punch line," is found in *O felici occhi miei*.[26]

     Through his composing and teaching, Flemish composer Adrian Willaert (1490–1562),

whose early madrigals were published in one of Verdelot's collections, exerted a large amount of

influence on later composers. While lacking the detailed text-painting of madrigals later in the

century, Willaert's pieces have a declamatory style that seeks a "'sound-unity' of music in

words," a combination of the accentuations of the Italian language and "a harmony that is the

sum total (and more) of individual vocal lines."[27] In Venice, Willaert taught a host of composers,

including Gioseffo Zarlino, but his most famous student was Cipriano de Rore (1515–1565).

     Rore took Willaert's ideas and interpreted them in a new way, making "the five-part

texture, laid out in free polyphony lacking in imitative regularity" the standard for his madrigal

composition.[28] The scoring of his pieces was thinner than that of his teacher's, with less

structurally important lines of poetry receiving less emphasis. Harmonically, Rore was an

innovator, "entirely conversant with the possibilities of the chromatic scale"; in the Dorian piece

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[25] Ibid., 11.
[26] Ibid., 15.
[27] Ibid., 25.
[28] Ibid., 30.

O morte, eterno fin, for example, the first words include a note outside the mode to coincide with the word "morte," or "death."[29] His experimentation with chromaticism was likely inspired by Vincentino, a theorist whose *L'antica musica ridotta alla moderna prattica* (1555) suggested a five-part division of the whole tone, thereby enabling different sizes of tones and semitones to commingle. Published in Rome, Giovanni Pierluigi da Palestrina's (1525–1594) madrigals use effects that are absent from his sacred music, partly because they set Italian rather than Latin texts; for example, in *Voi mi poneste in foco*, the words "weeping" and "heart" coincide with "the bare fifth and the augmented triad, with a false relation for good measure."[30]

Up until the 1560s, madrigals were meant for a learned audience, with serious poetry and harmonic devices that were best understood by the elite; however, a new generation of composers fused the more serious madrigal with lighter Italian forms like the villanella. The resulting madrigal was "neither traditionally polyphonic or motet-like, nor experimental or virtuosic in any way," and its texts were more inclined toward pleasurable experiences and pastoral topics.[31] Andrea Gabrieli pioneered this new style and composed madrigals that became extremely popular, in addition to being suitable for a wide variety of singers, audiences, and occasions. In his music, the vertical sonority takes precedence over contrapuntal concerns, and contrasting chords are juxtaposed in order to achieve a dramatic effect, as in *Che di dolcezza sentomi morire*, which pits the phrases "Che di dolcezza" and "sentomi morire" against each other chordally. Another significant composer around this time, and the only one who was not native to Italy, was Giaches de Wert (1535–1596), whose first book of madrigals was published in 1558; influenced by Willaert and Rore, his compositional style possessed elements both of the

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[29] Ibid., 31.
[30] Ibid., 45.
[31] Ibid., 46.

imitative style of his forebears and of the more modern style, which included more distant harmonies, "alternations of homophony and polyphony, and a feel for tonality."[32] Wert's later works were more virtuosic and adventurous, as in *Solo e pensoso*, in which "the voices [leap] about in such a way that all sense of harmonic progression vanishes"; however, Wert generally eschewed chromaticism in favor of other compositional devices.[33]

In 1580, madrigal activity shifted from Venice to Rome, Ferrara, and Mantua; it also marks the last publication by Andrea Gabrieli, as well as the first by Luca Marenzio (1553–1599) in several years. In addition, the level of musical training rose in Ferrara, where professional concerts were given daily and where "performer and listener were separated."[34] Marenzio's early madrigals are in the same stylistic world as the pastoral pieces of earlier composers, although they do more to highlight contrapuntal mastery and specific textual effects, such as the "intense verbal images" and "celebrated enharmonic passage" of *Dolorosi martir* and *O voi che sospirate*, respectively.[35] Marenzio's final madrigals, published between 1594 and 1599, contain highly chromatic passages, like *Cruda Amarilli* and *Solo e pensoso*, in addition to reaching new heights in terms of contrast and tension.

Carlo Gesualdo da Venosa (1566–1613), while an innovative madrigalist, drew a number of compositional techniques from his predecessors: he was committed to equal-voiced polyphony, and his compositions were to be performed only by voices rather than by voices and instruments. In addition, several of the distinctive elements of his style are present in the music of earlier composers, such as the textual and contrapuntal mastery of Marenzio and the grand

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[32] Ibid., 53-55.
[33] Ibid., 71.
[34] Ibid., 61-62.
[35] Ibid., 63-64.

pauses of another composer, Luzzasco Luzzaschi. However, Gesualdo took chromaticism to the extreme, especially in his later works, and he focused especially on linear chromaticism, as in the end of *Dolcissima mia vita*; even the seemingly vertical, progression-oriented chromaticism at the beginning of *Moro lasso* is an elaboration of a sequence with a distinct linear pattern.

In the preface to his *Scherzi musicali* of 1607, Claudio Monteverdi (1567–1643), through his brother Giulio Cesare, declared the new way of the *seconda prattica*, in which the text became central to the piece, even superseding musical concerns; in addition, "the sound of the music—its unusual intervals, rhythms, and sonorities—was . . . to draw an emotive response" that accompanied the text.[36] His setting of *Cruda Amarilli*, published two years prior, famously includes an unprepared seventh above the bass, with which Giovanni Artusi took issue, along with a diminished triad that leads to a chain of suspensions over the text "you teach me bitterly." Even in his earlier works, Monteverdi displayed a declamatory style that was the culmination of the madrigal tradition; his dissonance treatment in *Sì ch'io vorrei morire*, for example, emphasizes the text's tension and resolution thereof.

The English madrigal was the product of a trend in which Italian culture was in vogue in England in the sixteenth century; although *Musica transalpina* (1588), published by Nicholas Yonge, was the first publication of madrigals in England, Italian madrigals had been sung in that country for over half a century. Groups of amateurs had a high level of skill, performing these madrigals for the sake of enjoyment; in fact, English audiences saw madrigals as a primarily musical, rather than literary, pursuit, preferring translated Italian texts that were not overly long or cyclic. The works represented in *Musica transalpina* are from a wide variety of composers

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[36] Ibid., 80.

and styles, with little differentiation among lighter forms, such as ballett and canzonet, and "confusing mergers of forms and types."[37]

The long tradition of English song meant that certain modifications were made to the Italianate features of the madrigal; in particular, the "drama and passion of the Italians were alien to [the English]," so expressive devices like extreme chromaticism are, with some exceptions, absent from this nativized form.[38] Joseph Kerman notes that, while the English understood the chromaticism used in Italian madrigals, they were more conservative in its usage: they stayed away from "sudden chromatic progressions within the course of an otherwise undisturbed line," preferring a longer period of modulation.[39] Some Italianate elements of madrigals are found in Thomas Morley's (1557–1602) *Madrigals to Four Voices* (1597), such as bright, treble-forward scoring, but the harmonies are more modal and rhythms not as consistent; in addition, Morley seemed to favor three- and four-part textures. By contrast, Thomas Weelkes (1576–1623) approached madrigal composition with five- and six-part textures and greater poetic depth. In *Thule, the period of cosmography*, he provides an extensive harmonic progression to correspond to "these things seem wondrous"; the second part of this madrigal includes pervasive chromaticism on "How strangely Fogo burns," which is discussed below. The English madrigal, partly by way of that country's song tradition, brought a "typically English reserve" to the "Italianate quirkiness," but it marks a significant, two-decade flurry of compositional activity with richly conceived pieces.[40]

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[37] Ibid., 127.
[38] Ibid., 130.
[39] Joseph Kerman, *The Elizabethan Madrigal: A Comparative Study* (New York: American Musicological Society, 1962), 216-217.
[40] Roche, 140.

2.3   Survey of Existing Literature

2.3.1   Chorale Variation Sets

Books, articles, and other scholarly work on the chromatic variation are scarce; in fact, this topic has never been fully addressed, other than instances where it appears in the context of other features of variation sets. David Anderson, in his 1974 doctoral document for the University of North Texas, discusses the evolution of the variation set as a whole but limits his analysis to ornamentation, figuration, and melodic treatment.[41]

Other composer-specific sources do not address the chromatic variation in great detail. In his tome *The Organ Music of J. S. Bach*, Peter Williams notes that "chromatic variations near the close of a work were long familiar," citing past examples of Froberger and Scheidt, but stops short of an analysis of the chromaticism in its own right.[42] Hermann Keller, too, briefly addresses the chromatic variation in his survey of Bach's organ works: "[it] seems certain that the 8th partita (variation 7) [of *O Gott, du frommer Gott*] in its yearning chromaticism—the most expressive found in the early works of Bach—is an interpretation of stanza 7 [of the chorale]."[43] Williams dismisses this assertion as "conjecture" but does not provide any new ideas for the genesis of the chromaticism described.[44]

2.3.2   Late Madrigals

Far more studies exist of the late madrigal, both in general terms and with regard to particular composers. An article by Gregory Decker, published in 2015, focuses on the chromatic style of the madrigal, particularly settings of the poem "Cruda Amarilli," as a function of textual

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[41] Anderson, "Chorale Partitas," 1.
[42] Peter Williams, *The Organ Music of J. S. Bach* (Cambridge: Cambridge University Press, 1985), 505.
[43] Hermann Keller, *The Organ Works of Bach*, trans. Helen Hewitt (New York: C. F. Peters, 1967), 180.
[44] Williams, *Organ Music*, 505.

considerations, which inform the harmonic language of the work. The text, drawn from *Il pastor fido* by Guarini, "exhibits many of the more sophisticated textual characteristics that enticed madrigalists at the time": its very title is a double meaning, the first half *Amar-* being an etymological root of "love" and "bitterness," and the contrasts in the text lend themselves to contrasts in the music.[45]

Although Monteverdi's setting of the text is a popular one, the article begins with Marenzio's, which Decker sees as "an expression of Mirtillo's [the speaker's] internal conflict"; specifically, "the polarity between cadences on A and D creates the primary musical opposition in the piece."[46] This opposition appears in microcosm at the beginning of the madrigal, when the various musical lines seem to be moving toward a cadence in A. At the last minute, the canto moves upward to C#, creating a leading tone to D that anticipates a new cadence, which the other voices help to confirm in the following measure. The notion of ascent, possibly to subvert an expected cadence, continues in the second section of the madrigal, and a lack of strong cadences contributes to the feeling of harmonic instability, especially when "the expected third-to-octave contrapuntal motion is never realized because the alto leaps down a fifth."[47]

Decker's second pre-Monteverdi example is the *Cruda Amarilli* setting of d'India, whose "heavy chromaticism" creates a "jarring, disorienting effect."[48] Decker explains how the mode of the piece enables chromaticism:

> The overarching mode of d'India's setting is D Dorian, one of the most flexible modes by the late sixteenth century. As McClary illustrates, D Dorian can easily accommodate cadences on A, F, G, C, and E, due to its variable use of B-natural/B-flat and F-natural/F-sharp. The work exploits the ability to move among

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[45] Gregory J. Decker, "Strategies for Opposition, Ambiguity, and 'Amarilli' in the 'Seconda Pratica' Italian Madrigal," *Intégral* 28/29 (2014), 189-191.
[46] Ibid., 195-198.
[47] Ibid., 202-203.
[48] Ibid., 209.

differing modal centers via this chromaticism by setting up numerous attenuated cadences from the spectrum of available cadence tones.[49]

In the above paragraph, as well as throughout his argument, Decker distinguishes between "attenuated" and "full" cadences, showing that tonal coherence is weakened by attenuated cadences, that is, cadences that in some way obscure the sense of tonal closure. The chromatic motion, then, is used in combination with other harmonic and melodic devices, such as the intervals outlined by individual voices, in order to disorient the listener and to reinforce the ambiguity in the text.[50]

The ambiguity of d'India's setting "allows different modal characteristics to coexist within a single span of music"[51] One example that Decker gives is at the beginning of the piece: the alto and basso lines exploit the B♭/B♮ opposition and project D Dorian, while the canto and tenore outline A Aeolian; another instance, in mm. 23–31, contains chromatic notes that are leading tones to D and G. At the same time, "the most jarring" passage of the piece does not necessarily obscure modal clarity, as all of the voices point to the same modal center. Decker concludes that the composers of the *seconda prattica* style had an array of very flexible tools with which to work; further, they all used them to create, in the case of *Cruda Amarilli*, unique representations of duality and ambiguity, and chromaticism was one of those crucial tools.[52]

For Carl Dahlhaus, "[the] distinction between texture and coloration, between abstract counterpoint and alterations which merely add colour, is the presupposition for Gesualdo's chromatic technique," in the sense that chromaticism is not necessarily essential to counterpoint

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[49] Ibid.
[50] Ibid., 210.
[51] Ibid., 211.
[52] Ibid., 215-216.

but is an important "aesthetic" factor.[53] He uses an example from *Moro lasso* to show that, while the harmonies might look unconventional due to the high degree of chromaticism, the passage does not break any rules of counterpoint or dissonance treatment, with proper preparations and resolutions.

One important contrapuntal rule was the *regola della terze e seste*, which "specified that the transition from an imperfect interval to a perfect interval should be accompanied by a semitone step in one of the two voices."[54] This principle made it possible for chromatic notes to function as leading tones from imperfect to perfect consonances, but, in the sixteenth century, the role of chromatic notes as leading tones took on less importance. Gesualdo, then, diverged from the "conventional understanding of a chromatic alteration as a leading note," such that an "isolation of the chromatic semitone" took place.[55]

Denis Arnold notes that chromaticism was not necessarily a groundbreaking device in Monteverdi's time: not only was it "one of the strongest links" between the composer and his predecessors, but it was also a counterpart to melodic inventiveness that served the text. For example, Pallavicino's "Lunge da voi" opens with an octave leap and later contains a descending skip of a sixth—two of the more difficult intervals for singers—and Rore's "Crudele acerba inexorabil morte" features an ascending sixth. Even though technically challenging passages certainly existed prior to this period, "[the] newness [lay] in the use of such melodic harshness for the purposes of verbal expression," reinforced by "equally stringent harmonies."[56] The ways

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[53] Carl Dahlhaus, "Zur chromatischen Technik Carlo Gesualdos," trans. Geoffrey Chew, *Analectica musicologica* 4 (1967), 5.
[54] Ibid., 9.
[55] Ibid., 12-13.
[56] Denis Arnold, "'Seconda Pratica': A Background to Monteverdi's Madrigals," *Music & Letters* 38, no. 4 (1957), 349.

in which chromatic notes arise differ from one composer to the next, but, according to Arnold,

they generally adhere to good contrapuntal practice regarding suspensions and resolutions. For

example, Pallavicino's music "relies on extensions of the suspension principle, using unusual

intervals to mark the strangeness of the words"; in fact, his *Cruda Amarilli* is similar to the

settings of d'India and Monteverdi in its use of unprepared dissonance.[57]

Geoffrey Chew affirms the importance of the text in the creation of contrasting, highly

chromatic moments in Monteverdi: "[dissonance structures] mostly introduce affective contrast,

often taking individual words of phrases of the text as their cue; and . . . their essential purpose is

to overlay basic musical textures with unexpected, delightful contrast."[58] One such moment, in

Cruda Amarilli, is the unprepared seventh in m. 13, grounds for later theorists to claim

Monteverdi as the inventor of modern tonality with this so-called dominant seventh. However,

such an assertion indicates a modernist interpretation of Monteverdi's music, particularly

viewing it through the lens of Rameau's preference for vertical content over horizontal, and

theoretical writings like those by Martini and Fétis are "not ideally suited to Monteverdi analysis,

if positive results are expected."[59]

Chew examines three analyses which, at the time of the article's publication, were fairly

recent: those of Felix Salzer, Bernhard Meier, and Susan McClary. Salzer argues that

Monteverdi's music is tonal, with "the madrigal 'Oimè se tanto amate' elegantly [explicated] as

an orthodox Schenkerian minor-key structure"; such an analysis is consistent with Salzer's view

of music, which is that composers across different eras "adhere to the same basic principles of

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[57] Ibid., 349-350.
[58] Geoffrey Chew, "The Perfections of Modern Music: Consecutive Fifths and Tonal Coherence in Monteverdi," *Music Analysis* 8, no. 3 (1989), 249.
[59] Ibid., 249-250.

musical continuity and structure."[60] Meier, on the other hand, analyzes Monteverdi's 1610

Vespers in the context of "Gregorian modality," and Chew considers both of these viewpoints to

be convincing in their own ways.[61] However, he finds McClary's analysis to be especially

successful in its identification of a "mode-bearing voice" as one that initiates a $\hat{5}$-$\hat{4}$-$\hat{3}$-$\hat{2}$-$\hat{1}$

structural descent, although she never reconciles this modal approach with "Schenkerian tonal

theory."[62]

Chew concentrates on one pattern in which consecutive fifths, arising from parallel 5/3

chords, are "narrowly [avoided]" by brief intervening harmonies.[63] This pattern was not unusual

in music of the time, since figured-bass treatises stipulated that a bass note that coincided with

the *battuta* should be harmonized with a 5/3 chord. In *Io mi son giovinetta* by Monteverdi,

middleground consecutive fifths create a descending sixth-progression; then, while the upper

voices remain in parallel thirds—which was their previous state as the third and fifth above the

bass—the bass line ascends, thus avoiding the consecutive fifths that had before only been barely

concealed. According to Chew, "[the] interlinking of descents and ascents . . . [represents] the

principal means at Monteverdi's disposal for unifying approaches to cadences and producing

tonal closure."[64]

Youyoung Kang provides additional insight into analytical possibilities, rightly pointing

out that "the fundamental compositional process, even for Monteverdi, was counterpoint" and

that any discussion of harmonic progression or chromaticism should take that priority into

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[60] Ibid., 250.
[61] Ibid.
[62] Ibid.
[63] Ibid., 251.
[64] Ibid., 253.

account.[65] Of course, by the beginning of the seventeenth century, much had changed in the way of contrapuntal practice, even if the basic tenets were the same: it became more permissible to use similar motion; the bass, rather than the tenor, was the voice most likely to generate counterpoint; and improvisatory devices, such as melodic sequences and scalar passages, were more prevalent in the literature.

The notion of sequences in Monteverdi's music is tied to his use of harmonic motion by ascending and descending step; one reason for a sequence was to mask parallel perfect intervals. Since, by 1600, it was important for the bass to be harmonized with a 5/3 chord when it occurred on the beat, successive 5/3 chords were necessary. In order to avoid these parallel intervals, which were contrapuntally undesirable, additional harmonies were interpolated, and the parallelism was mitigated: "the sequential use of a melodic motive or ornamental *passaggi*-like figures between the 5/3 sonorities prevented such contrapuntal mistakes, if only by means of surface detail."[66]

She then addresses the sequences in Monteverdi's works, particularly those that facilitate chromaticism of some kind. In *Gloria a 7* (1640), a rising A-E bass line is harmonized almost entirely with 5/3 chords, with the exception of the B, which receives a 6/3 treatment in order to avoid a diminished fifth. The result is two chords, C-E-G and E-G#-B, separated only by one intervening bass note, that create "striking harmonic chromaticism within this tutti section."[67] Another tutti passage, from *Dixit Dominus secondo* (1640), shows a similar effect: the bass notes B♭, C, and D participate in a sequence, separated by G (between B♭ and C) and A (between C and

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[65] Youyoung Kang, "Monteverdi's Early Seventeenth-Century 'Harmonic Progressions,'" *Music Analysis* 30, no. 2/3 (July-October 2011), 189.
[66] Ibid., 191.
[67] Ibid., 199.

D), in which the semitone pairs B♭-B♮ and C-C♯ are given in rapid succession. Accompanying this dramatic harmonic effect is an equally dramatic text, which includes the lines "He will strike kings, he will judge among nations" and "He will execute destruction."[68]

2.3.3 Other Topics in Chromaticism

There are also some sources that deal with chromaticism in general, spanning multiple genres or time periods; John Clough finds analytical potential in "the occurrence and behavior of the leading tone," which facilitates a comparison of Renaissance and Baroque chromaticism.[69] Clough's approach hinges on finding a common musical denominator between the two time periods, and he settles on major and minor triads as the most frequent chord structures, and thus the most useful. In a similar vein, he seeks "an objective means of comparison" suitable for both Renaissance and Baroque compositions, and he finds "one such factor that is common to all areas": "that quality constituted by (1) the interval of root movement and (2) the succession of triad types, major and minor."[70] This strategy has two advantages: eliminating other, possibly distracting concerns, such as register and voice leading, and not requiring strict tonality.

Plotting all possible choices of quality changes and root changes yields forty-four combinations, twenty-six of which are chromatic; that is, they result in pitches outside diatonic space. Furthermore, Clough's survey of the Renaissance and Baroque repertoires shows that Renaissance music uses twice the number of species of chromatic triad-to-triad progressions as its Baroque counterpart. The author notes that Baroque chromaticism involves the lower leading tone, which he defines as the major third of a triad, resolving upward to any member of the

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[68] Ibid., 200.
[69] John Clough, "The Leading Tone in Direct Chromaticism: From Renaissance to Baroque," *Journal of Music Theory* 1, no. 1 (March 1957), 2.
[70] Ibid., 5.

following chord; this lower leading tone either appears in the first chord and resolves in the

second or appears in the second chord and resolves in a hypothetical third.

Within this "limited area" of chord succession involving lower leading tones, "the

[Baroque] made full use of the possibilities of chromaticism" while excluding the other possible

triadic combinations.[71] This principle is then used to determine if a given progression in

Renaissance music would ever occur in Baroque music. For example, in the first two measures

of Gesualdo's *Moro lasso* (Example 2.1), the lower leading tone of the C♯ major triad, the E♯,

does not resolve upward in the next chord, and there is no potential lower leading tone in the

next chord, as it is an A minor triad; therefore, this progression would be "foreign to [Baroque]

practice."[72] Clough touts this kind of comparison, based on the lower-leading-tone principle, as

superior to traditional methods of theoretical analysis because it provides a faster, more direct

comparison between the two repertoires, once the scope of Baroque chromaticism has been

deduced. This approach is certainly commendable for its simplicity, providing a single

characteristic that can translate from one body of literature to another; however, its reliance on

root motion is an ahistorical way to compare repertoires, given that triadic theory was

undeveloped at the time of Gesualdo and his contemporaries and that root-motion techniques

were not fully developed at the time of Bach and his contemporaries.

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[71] Ibid., 9.
[72] Ibid., 10.

Example 2.1: Gesualdo, *Moro lasso*, mm. 1–2.

This approach receives some criticism from Carl Dahlhaus for its methodology, namely, the specific reading of which notes belong to the fundamental bass. Example 2.2 shows a passage from Gesualdo's *Hai, gia mia disco loro* that appears to show root motion by tritone: when the lowest voice changes to F♯, the root of that triad is B, in the middle voice. However, Dahlhaus argues that the B and D in the upper two voices are best understood as suspensions that eventually resolve to A and C, respectively; since F♯ and F♮ are "contrapuntally identical," this suspension treatment is appropriate.[73] In fact, many of Clough's progressions should, according to Dahlhaus, be understood in a similar fashion, with a more nuanced view of a possible fundamental-bass progression in light of contrapuntal considerations.

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[73] Dahlhaus, "Zur chromatischen Technik," 5.

Example 2.2: Gesualdo, *Hai, gia mia disco loro*, mm. 10–12.

dis - co - lo - ro
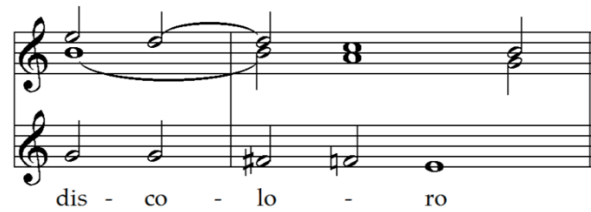
Michael Burdick takes a less anachronistic approach to late madrigals by focusing not on "the harmonic practices of the Renaissance or Baroque periods [sic]" but instead on phrase painting, which was a known compositional tool of Renaissance composers.[74] Although Clough's research, by comparing chromaticism Renaissance and Baroque music, effectively shows which progressions were "most representative of the late Renaissance period," Burdick notes that other theorists have "valiantly struggled" to find explanations for such harmonies.[75] For example, Glenn Watkins theorizes that secondary dominants are the generating principle behind the chromaticism in madrigals, while Carl Dahlhaus sees Gesualdo's chromatic-third progressions as the juxtaposition of Phrygian cadences.

Rather than try to explain these progressions in terms of functional harmony, Burdick simply accepts them as part of Gesualdo's style and moves on. The notion of a chord progression is replaced with "two types of goal orientation": individual phrase painting, and harmonic starting and ending points of poetic lines. The first he defines as "directed melodic movement, often involving chromaticism, toward the final goal note of a phrase of text."[76] Most of these goal notes are, in fact, diatonic, and the notes that lead to them are meant to reflect the way in

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[74] Michael F. Burdick, "Phrase Painting and Goal Orientation in Two Late Gesualdo Madrigals," *Indiana Theory Review* 5, no. 2 (1982), 16.
[75] Ibid., 17.
[76] Ibid., 19.

which a phrase is spoken; importantly, chromaticism that arises in this fashion is connected to the text itself and how the naturally spoken cadences correspond to musical devices.

When the goal notes are not diatonic, they "form the end points of structural units larger than the phrase of text—namely, the verse"; Burdick thus establishes a hierarchy of goal-oriented motion, beginning at the lowest level with the harmonic progression, which is overridden by the phrase of text, the middle level, and by the verse itself, the highest level.[77] For example, in *Io pur respire*, two harmonies that appear to be augmented sixth chords are actually contrapuntal approaches to the voices' goal notes painting the phrase "Deh morte." In m. 14 of that same madrigal, on the other hand, the goal notes of the end of one phrase and the beginning of the next overlap to create a minor seventh chord.[78]

Burdick also uses the ending sections of *Io pur respiro* and *Moro lasso* to show the two types of goal-directed motion in his theory. In the last seven measures of the former, he notes that the "unusual collection of triads and seventh chords that, taken by themselves, do not fit the standard Renaissance harmonic vocabulary" are products of voice leading of the individual lines toward their phrase goals, similar to the analogous section in *Moro lasso*.[79] The latter madrigal famously boasts nonstandard root motion, particularly by thirds; some of these progressions arise from the overlapping of two verses, such as in mm. 22–23, in which "the C♯ major triad [is] the final chord of one verse and [the] A minor triad [is] the initial chord . . . of the succeeding verse."[80] Significantly, rather than looking simply at the musical text of a piece, Burdick focuses

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[77] Ibid., 20.
[78] Ibid., 29-30.
[79] Ibid., 30-31.
[80] Ibid.

the discussion on the poetic text and encourages theorists to consider how poetry might have shaped the compositional style of madrigalists, particularly Gesualdo.

In "A New Theory of Chromaticism from the Late Sixteenth to the Early Eighteenth Century," Kyle Adams identifies two existing approaches to chromatic works: (1) relative, or the focus on intervals and intervallic progressions, and (2) absolute, or the definition of chromaticism as the "use of pitches outside of an established diatonic collection."[81] He explains that both methods fall short of a comprehensive analysis, since the relative approach does not account for all chromatic instances and the absolute approach superimposes modern concepts of tonality and structure onto works which do not subscribe fully to those ideas. Adams takes a broad view of chromaticism, acknowledging that it can be used in many different contexts, and thus gives a "continuum of chromaticism" depending on how it is used.[82]

In order to accomplish the goal of providing a more comprehensive theory of chromaticism, Adams makes use of the diatonic reduction, which eliminates chromaticism to reveal an underlying tonal system, denoted by a key signature. Such a process also shows changes between and juxtapositions of different tonal systems effected by chromatic pitches. With this method, there are two types of chromaticism: essential, which "[corrects] an unacceptable sonority in a given repertoire," and nonessential, which either "[corrects] sonorities that are contextually incorrect" or serves purely expressive purposes.[83] Adams's theory has the benefit of distinguishing among levels of chromaticism, especially in music that existed before our modern conception of functional tonal harmony.

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[81] Kyle Adams, "A New Theory of Chromaticism from the Late Sixteenth to the Early Eighteenth Century," *Journal of Music Theory* 53, no. 2 (2009), 256-257.
[82] Ibid., 260.
[83] Ibid.

On its surface, Daniel Harrison's *Harmonic Function in Chromatic Music* might not appear to apply to the music analyzed in this dissertation, as it mainly revolves around music of the late nineteenth and early twentieth centuries; however, its principles provide useful tools for analyzing chromatic music of earlier composers. The foundation of Harrison's analysis is the establishment of "parallel major and minor as a fundamental dualism," and, in chromatic music, "the two modes remain perceptually separable while compositionally squeezed together in unprecedented density."[84] The author then develops "dual networks," presenting important characteristics of each of the two modes: major, for example, uses $\hat{7}$-$\hat{8}$ motion, while minor uses $\flat\hat{6}$-$\hat{5}$; those "characteristic semitones" suggest dominant and subdominant motion, respectively.[85] The first chapter demonstrates that this approach works for Baroque music with a brief analysis of a passage from J. S. Bach's Fantasy in G minor, BWV 542/i, in which "the third of [each local minor tonic] is then sharpened in order to create a major, Dominant-functioned chord for the next fifth [root] motion."[86] This example hints at Harrison's next theoretical principle: the existence of subdominant and dominant areas, which extend in opposite directions around a central tonic and which, with tonic, "constitute the harmonic functions of tonal music."[87]

Such a conclusion is not necessarily groundbreaking, but Harrison goes one step further: he asserts that harmonic function is a product of scale degrees, not of chords themselves. In this conception, each of the tonic, dominant, and subdominant triads consists of a base, an agent, and an associate, which correspond in Harrison's table to the root, third, and fifth of the triad, respectively. As the lowest-sounding pitch of a chord, the base communicates function to such a

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[84] Daniel Harrison, *Harmonic Function in Chromatic Music: A Renewed Dualist Theory and an Account of Its Precedents* (Chicago: University of Chicago Press, 1994), 19-22.
[85] Ibid., 26-29.
[86] Ibid., 34.
[87] Ibid., 34-35.

strong extent that, $\hat{5}$, for example, as the note in the bass voice, can communicate dominant function even without any of the other notes of the dominant triad above it, an effect that Harrison demonstrates with a variety of examples, including what would be considered "Gsus4" and "G#9♭13" in C major.[88]

When they are not the lowest-sounding note in the chord, bases can work with agents to communicate function. An agent is "entirely dedicated to the function in question," and it helps to signify mode: $\hat{7}$, the agent of the dominant function, suggests major mode because it is the "characteristic semitone" thereof; similarly, $\hat{6}$ forms the characteristic semitone of minor mode and thus signifies it.[89] Interestingly, for Harrison, $\hat{7}$ and $\hat{6}$ do not need to be a semitone away from $\hat{1}$ and $\hat{5}$, respectively, to express the functions for which they act as agents. For example, the minor-mode $\hat{7}$ communicates dominant function in folk music, some sacred music, and many "national" styles, including works by Dvořák and Grieg.[90]

The third indicator of function, the associate, is much weaker than either the base or the agent; it serves mainly as reinforcement, working with bases and agents to communicate a particular function. Harrison provides an example to illustrate the ambiguity and transience of an agent: although it is the agent of dominant function, $\hat{2}$ alone does not signify it. Thus, when it is combined with the elements of the subdominant function, it is "further weakened . . . by a habitual fraternization" with the latter.[91] Even agents and bases are subject to strengthening and weakening, depending on their musical context, and the effect of "functional mixture," in which

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[88] Ibid., 45-48.
[89] Ibid., 51-52.
[90] Ibid., 53-54.
[91] Ibid., 55-56.

chords communicate more than one function, creates ambiguities and contrasts that require analysis of musical subtleties.[92]

The voice leading from one function to another is called "functional discharge" and involves the motion of a functional agent to another note; for example, the discharge on tonic from dominant is $\hat{7}$-$\hat{1}$. Agents "control the sense of discharge" because they are strongly associated with their functions, while bases and associates can be more ambiguous and are better described as serving, not effecting, a change in function.[93] Importantly, discharges begin with an agent and end with either the base or the associate, not another agent, as would be created by $\hat{6}$-$\hat{7}$ or $\hat{7}$-$\hat{6}$; this tenet is reinforced by several historical theoretical approaches, which find a bridging of the $\hat{6}$-$\hat{7}$ gap problematic for a host of reasons, including "[the] authority and influence of Zarlino, the fundamental-bass problems of Rameau, [and] the impure fifth of just intonation."[94]

As an agent discharging to a base is a feature of dominant-to-tonic motion, or an authentic cadence, Harrison represents it as part of an "Authentic system," which contrasts with the agent-to-associate discharges of a "Plagal system."[95] Although the authentic system is privileged in most theoretical writings, the plagal system serves as an appropriate foil, especially in nineteenth-century music; an analysis of Brahms's *Wie Melodien zieht es mir*, op. 105, no. 1, shows the plagal system to have had "some influence on compositional structure" both in local resolutions and in the song's large-scale harmonic structure.[96]

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[92] Ibid., 60-61.
[93] Ibid., 91-92.
[94] Ibid., 95-96.
[95] Ibid., 97.
[96] Ibid., 99-100.

CHAPTER 3: FOUR CHROMATIC VARIATIONS

3.1   Guiding Principles for Chromatic Variations

The next four analyses demonstrate that there are certain characteristics of chorale melodies and their potential contrapuntal partners that encourage chromatic embellishment and harmonization. These properties will be organized according to the following four principles: Whole-Step, Applied Dominant, Applied Subdominant, and Pattern. Two additional principles inform the chromatic harmonizations themselves: Continuous-Direction and Continuous-Chromaticism.

The most straightforward way to create chromaticism without disrupting the overall shape or rhythm of the melody is to add chromatic passing tones, which are only possible between notes that are a whole step apart. Thus, the Whole-Step Principle states that chorale tunes with a large number of whole steps are more suitable for chromatic variation than those without because of the possibilities for chromatic passing tones between melodic notes. This principle is the broadest one, and it does not require any specific harmonic or contrapuntal accompaniment in order to provide chromatic embellishment. In particular, there are three melodic fragments that contain two whole steps, thus allowing for a five-note chromatic line: $\hat{1}$-$\hat{2}$-$\hat{3}$, $\hat{4}$-$\hat{5}$-$\hat{6}$, and $\hat{5}$-$\hat{6}$-$\hat{7}$ (Example 3.1a). These fragments can also occur in nonmelodic voices as parallel-third or -sixth accompaniment to a similarly shaped melody, which may or may not include two whole steps (see, for instance, $\hat{1}$-$\hat{2}$-$\hat{3}$ versus $\hat{2}$-$\hat{3}$-$\hat{4}$); Example 3.1b shows the possibilities for this counterpoint, which only includes major and minor sixths.

Example 3.1: Possible chromatic passing tones between notes of the diatonic scale.

(a) Between adjacent scale degrees.

(b) Between pitches that form parallel-third and -sixth counterpoint.

Nevertheless, certain whole steps are more consequential than others and merit consideration by themselves. The **Applied-Dominant Principle** states that a chorale melody is more conducive to chromatic treatment if it contains descending whole-step pairs that can be interpreted as $\hat{2}$-$\hat{1}$ in local keys. Certain temporary keys function better than others within the global tonic, so reading a pair of notes as $\hat{2}$-$\hat{1}$, and thus supported by V-I in a given key, requires some sensitivity to large-scale harmonic motion. Since this pair of melodic pitches would not be

chromatically embellished, despite their separation by a whole step, the chromaticism exists in

the other voices: in order to create an applied dominant, one must have a leading tone of the

applied key. Except for V/IV in a major key and V/III in a minor key, the applied leading tone

requires an accidental to raise the diatonic pitch by a semitone; this accidental is another source

of chromaticism.

Two further considerations inform the Applied-Dominant Principle. First, it often works

in conjunction with a descending-fifth (local $\hat{5}$-$\hat{1}$) root motion in a non-chromatic harmonization,

such that a minor third above the first root can be raised to become a leading tone of the next

root. Second, while it stems from the Whole-Step Principle in its use of chromatic passing tones,

not all such passing tones work equally well to create applied dominants, given the overall

harmonic context; for example, in C major, an applied leading tone A♯ of a B major or minor

chord—that is, V/VII or V/vii—is unlikely, while a G♯ going to A as V/vi is more plausible.

Example 3.2 shows the four most plausible pairs of applied-dominant-to-tonic chords in C major,

the roots of which are all diatonic in that key.

Example 3.2: Applied-dominant notes corresponding to descending-fifth root motion.

Following Daniel Harrison's research, I identify another principle based on applied

chords: the **Applied-Subdominant Principle** states that a chorale melody is more conducive to

chromatic treatment if it contains descending whole-step or half-step pairs that can be interpreted

as $\hat{6}$-$\hat{5}$ in local keys. For Harrison, the applied subdominant is based on the semitone $\hat{6}$-$\hat{5}$ in

minor; in a major key, $\hat{6}$ needs to be lowered to create the chromatic line $\hat{6}$-♭$\hat{6}$-$\hat{5}$. As in the

Applied-Dominant Principle, root motion plays an important role, although here it is the

ascending, rather than descending, fifth that facilitates this principle. In addition, certain applied-

subdominant notes work better than others within the global key: E♭-D functioning as ♭$\hat{6}$-$\hat{5}$ in G

major is well within the realm of possibility, whereas G♭-F (♭$\hat{6}$-$\hat{5}$ in B♭ major) is less so. Example

3.3 shows the four most plausible pairs of applied-subdominant-to-tonic chords in C major,

whose roots are diatonic in that key and which feature no more than one chromatic note per pair.[1]

Example 3.3: Applied-subdominant notes corresponding to ascending-fifth root motion.

The **Pattern Principle** states that a chorale melody that exhibits certain recurring patterns

can be harmonized a number of times by chromatic devices either to create variety or to attain a

certain goal. One particular "chromatic device" that can harmonize a pattern is the chromatically

embellished descending tetrachord ($\hat{1}$-$\hat{7}$-♭$\hat{7}$-$\hat{6}$-♭$\hat{6}$-$\hat{5}$), in either original or inverted form; for

example, as I will discuss in greater detail below, in Samuel Scheidt's *Da Jesus an dem Kreuze*

stund, when the melodic pattern $\hat{2}$-$\hat{4}$-$\hat{3}$ occurs in any key, it is harmonized with this chromatic

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[1] In order to illustrate the chromatic filling-in, the soprano-line quarter notes of each subdominant-to-tonic pair are separated by whole step.

line to create parallel thirds and sixths with the soprano (Example 3.4). This principle is broad in the sense that there are many possible melodic patterns that can be discerned in a chorale tune; a goal of an analysis, then, is to see how the different instances of a particular pattern are connected, if at all. A pattern may be harmonized in quite dissimilar ways in order to demonstrate compositional variety, or, over the course of the variation, it might be harmonized in a way that suggests attempts at, and then achievement of, a strong cadence or a sense of arrival in a particular key.

Example 3.4: Three instances of the pattern $\hat{2}$-$\hat{4}$-$\hat{3}$ in Scheidt, *Da Jesus*.

(a) mm. 4–5.

(b) mm. 9–10.

(c) mm. 16-17.

Aside from aspects of chorale melodies, the variations themselves exhibit two characteristics that are consistent across the repertoire. The first, the **Continuous-Direction Principle**, states that a chromatic note within a stepwise line is approached and left in such a way as to create a unidirectional line; stated differently, a chromatic note will not change the direction of the line in which it appears. Example 3.4 above shows three instances of chromaticism in which the direction of the line remains the same: a downward line in mm. 4–5, two upward in mm. 9–10, and one upward in mm. 16–17. The first line of *Was Gott tut, das ist wohlgetan* by Johann Pachelbel (Example 3.5) gives further evidence of this principle, with every chromatic note acting as part of a single-trajectory line, such as the filled-in fourth A-D in mm. 1.2–2.1 or the similar E-B in mm. 2.4–3.2 (both in the soprano line). This excerpt also typifies the **Continuous-Chromaticism Principle**, in which nearly every moment of the chromatic variation is participating in semitonal motion. Here, there are only three instances that are not approached by semitonal motion of some kind—mm. 2.1.2, 2.4.1, and 3.3.2—out of twenty-eight possible places in a meter subdivided by eighth notes, not counting the anacrusis or the first beat of m. 1.

Example 3.5: Pachelbel, *Was Gott tut, das ist wohlgetan*, mm. 1–4.

3.2 Johann Pachelbel, *Was Gott tut, das ist wohlgetan*

The chorale partita *Was Gott tut, das ist wohlgetan*, by Johann Pachelbel, was published as part of the collection *Musicalische Sterbens-Gedancken* (1683), which has since been lost and

is only available through reconstruction of existing pieces.[2] Examples 3.6 and 3.7 below present

the chorale tune followed by the fourth variation in Pachelbel's set.[3]

Example 3.6: *Was Gott tut, das ist wohlgetan,* chorale tune.

Example 3.7: Pachelbel, *Was Gott tut*, var. 4.

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[2] Ewald V. Nolte, "Pachelbel [Bachelbel], Johann," *Grove Music Online*, accessed April 2, 2019, https://www.doi.org/10.1093/gmo/9781561592630.article.6002278237.
[3] The chorale tune matches the theme given at the beginning of Pachelbel's piece; small variations in the melody among different hymnals may be present.

All four voices—how they interact within themselves, with each other, and with the chorale melody—contribute to answering the questions presented so far regarding a chorale tune's fitness for chromatic variation. This tune adheres to the Passing-Tone Principle in its inclusion of pairs of pitches that are a whole step apart; these pitches, in turn, can accommodate chromatic passing tones. Taking this principle to the extreme results in a hypothetical melodic variation (Example 3.8) in which every possible chromatic passing tone is realized: a plentiful seventeen opportunities.[4] Some of these intermediary notes would function quite well in an applied-dominant or applied-subdominant context, such the G♯ in m. 1.1 resolving as the applied leading tone to A minor, while others are less likely, such as the D♭ in m. 3.1 resolving to F major. These situations will be discussed as they arise.

Example 3.8: Hypothetical melodic variation using every available chromatic passing tone.

In my maximally chromatic version of the chorale tune, I have made a crucial assumption: the preference for chromatic passing tones in metrically weak positions, particularly if they share the same letter name as the strong-beat pitch. In fact, in Pachelbel's variation, several non-diatonic notes, of which there are ten in the soprano line, are on the beat rather than

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[4] The fastest chromatic passing tones, in keeping with the practice established by Pachelbel's chromatic variation, are eighth notes.

on the preceding or following half-beat. In the first measure, two instances of chromatic passing tones, one on the beat and one on the half-beat, illustrate the benefits of both positions. Example 3.9 reproduces these moments with an accompanying Roman numeral analysis. The first chromatic passing tone, the B♭ in the soprano part, occurs on the beat and has the striking effect of modal mixture: a minor tonic chord in a major key. This use of chromaticism in the soprano line to create modal mixture occurs four other times in the movement, for a total of five, which account for half of the instances of chromaticism in the melody. The second chromatic passing tone, C♯, creates an applied chord that approaches the dominant contrapuntally. In both cases, the resulting sonorities are not present in the diatonic harmonization but are still relatively familiar chords; in addition, they are presented in such a way as to maximize their potential: B♭ for modal mixture, C♯ for an applied leading tone.

Example 3.9: *Was Gott tut*, var. 4, mm. 1–2, two instances of accented chromatic pitches.

The idea of "maximizing" a certain quality refers to the choices that a composer has made and to the consequences of those choices. For example, recomposing the above passage demonstrates the outcome of two different rhythmic choices: placing the B♭ in an unaccented position and the C♯ in an accented one (Example 3.10). The new V^{+6} chord in Example 3.10 is certainly striking—an augmented triad—but it only lasts for half a beat and, in this style, does

not connect harmonically to the preceding or following chord. In addition, part of the effect of the original variation comes from the constant swirl of eighth notes in accordance with the Continuous-Chromaticism Principle; m. 1 of this recomposed version only has quarter notes on the third beat and thus loses Pachelbel's consistency and forward motion.

Example 3.10: *Was Gott tut*, var. 4, mm. 1–2, recomposition.

$\natural$VII? V^{+6} I IV^6 V^7/V V$^{4-(3)}$
over V pedal

The lower three voices also make use of chromatic passing tones, although non-diatonic notes occasionally enter without preceding stepwise motion; mm. 4–5 provide an example of each case (Example 3.11). At the end of m. 4, the tenor voice contains a B$\flat$; the intent of modal mixture seems quite clear in this instance, not to mention its parallelism with the first beat of m. 1. In contrast, the G$\sharp$ in m. 5 is, like its counterpart in the soprano one beat prior, a passing tone, creating a momentary V/ii sonority, an applied-dominant effect that recalls the progression in Example 3.10 above.

Example 3.11: *Was Gott tut*, var. 4, mm. 4–5, inner-voice chromaticism.

As the soprano line is an embellishment of the diatonic chorale melody, the entire movement can be considered an embellishment of an ideal, unrealized, diatonic harmonization, (Example 3.12a), to which judiciously added applied chords approximate a progression typical for Pachelbel (Example 3.12b). Finally, for a third component of this comparison, I have provided the diatonic harmonization that Pachelbel gives at the beginning of the piece. Some of the differences are very small; for example, the extra sixteenth notes in the tenor line of m. 2 are not going to make a big difference as far as facilitating chromaticism. However, some other alterations show the chromatic-turned-diatonic harmonization to be more conducive to chromaticism than Pachelbel's initial setting.

Example 3.12: Several diatonic harmonizations of *Was Gott tut*.

(a) Hypothetical, completely diatonic harmonization based on var. 4.

(b) Hypothetical, mostly diatonic harmonization based on var. 4.

(c) Pachelbel's harmonization at the beginning of the piece.

Specifically, two changes to this chorale harmonization increase its adherence to the Whole-Step Principle; both revolve around the addition of whole steps where they previously did not exist. Furthermore, they increase the harmonization's adherence to the Applied-Dominant Principle; while melodic opportunities for it are scarce (mm. 4, 8, 10), the addition of possible inner-voice, leading-tone characteristics fulfills the same goal. The first change is in the bass voice: one important difference between Examples 3.12b and 3.12c is that the former has more stepwise bass motion approaching dominant harmonies. As in the soprano line, such stepwise motion by whole tone is ripe for the addition of chromatic passing tones to function as applied-dominant leading tones. Example 3.13a shows the bass line at the beginning of the piece; Example 3.13b contains the bass line of this hypothetical diatonic-with-applied-chords harmonization, highlighting additional stepwise motion. In all three cases of this additional motion, the dominant bass note (in m. 8, of D major) is delayed by one beat, and replaced by $\hat{4}$. While it is true that $\hat{4}$ also appears in Example 3.13a, the difference in Example 3.13b is that it supports $\hat{2}$ in the soprano—a note that can be harmonized by IV, V, or any dominant-function applied chord of V. Therefore, the harmonic possibilities of $\hat{2}$ are maximized by the bass line $\hat{4}$-$\sharp\hat{4}$-$\hat{5}$, rather than simply $\hat{5}$.

Example 3.13: Actual and hypothetical bass lines, with additional stepwise motion shown.

(a) The first movement (theme) of Pachelbel, *Was Gott tut*.

(b) Hypothetical diatonic harmonization, with some applied chords, based on var. 4.

The second change deals with the embellishment of applied leading tones: they are approached by semitone from below to form the figure $\flat\hat{7}$-$\hat{7}$-$\hat{1}$. That is, $\flat\hat{7}$ is added to create a whole-step pair with $\flat1$, in the middle of which $\hat{7}$ becomes a chromatic passing tone. Appending $\flat\hat{7}$ at the beginning of a three-note, applied-dominant-to-tonic figure coincides with root motion ascending by fourth ($\hat{5}$-$\hat{1}$); Example 3.14 shows the first movement's diatonic harmonizations of four places in the chorale, followed by their chromatic counterparts as presented in the fourth movement. The root motion G-C in the second half of m. 1 becomes a progression from G major to C major—a dominant-to-tonic relationship—that is embellished with B♭-B-C, or, in C major, $\flat\hat{7}$-$\hat{7}$-$\hat{1}$. In addition to creating an extra whole step, the B♭ helps highlight B♮ as a pitch that is moving or that must resolve somewhere, as opposed to simply being the third of the tonic chord. The passage in mm. 5-6 contains V$^{6/5}$/V and V^{7}/IV, which correspond to the original root motion A-D and G-C. An additional applied chord, V$^{4/2}$/ii, would require E-A in the bass, which appears in the soprano line. This new harmony displaces and compresses the applied dominant of the dominant so that it occurs entirely on beat three of the measure, rather than from beat two into beat three. In two out of the three cases, V$^{4/2}$/ii and V$^{6/5}$/V, it is the previously mentioned embellishment—lowered leading tone, leading tone, tonic—that creates the applied chord.

Example 3.14: Pachelbel, dominant-to-tonic relationships and embellishments.
(on the left: the theme; on the right, var. 4)

There is another occurrence of an applied but unresolved dominant that is relevant to this discussion. The movement begins with a G-minor chord, perhaps suggesting that this variation is in a minor key—well within the realm of possibility for a variation set. The appearance of the B♮, in the context of G minor, would, as the leading tone of C minor, likely indicate a V/iv; this expectation is subverted by the subsequent F major harmony, and, by the end of the phrase, the movement is firmly in G major, with a major-key predominant and a cadence in the major tonic.

Potential for the Applied-Subdominant Principle is signaled by root motion descending by fourth, or $\hat{4}$-$\hat{1}$ in any given key. One interesting feature of this movement is the creation of

applied dominant/subdominant pairs for a key, shown in Example 3.15. For example, mm. 2-3 contains both the $\natural\hat{7}$-$\sharp\hat{7}$-$\hat{1}$ of an authentic progression and the $\hat{6}$-$\flat\hat{6}$-$\hat{5}$ of a plagal progression in G major; mm. 6.4 through 7.3 present a similar duality in the key of D major, as do mm. 9.4 through 10.2. Another salient aspect of these chords is how often similar functions create chains of applied dominants: m. 1 features four chromatically embellished dominants, all occurring in immediate succession; m. 5.2 starts a group of three, m. 8 begins with two, and m. 10 begins with two.

Example 3.15: Pachelbel, subdominant-to-tonic relationships and embellishments.
(on the left: the theme; on the right: var. 4)

The chromatic variation of *Was Gott tut, das ist wohlgetan* thus exemplifies three of the four tune-based principles identified at the beginning of this chapter. The Whole-Tone Principle

is evident in the construction of the chorale tune as mostly a stepwise affair, and the resulting whole steps are embellished with chromatic passing tones. The Applied-Dominant and Applied-Subdominant Principles work together to create pairs of applied chords—albeit not always inherent in the chorale melody itself—for local key areas; in addition, the figure $\flat\hat{7}$-$\hat{7}$-$\hat{1}$ (or $\natural\hat{7}$-$\sharp\hat{7}$-$\hat{1}$) frames the leading tone as a chromatic passing tone between the lowered leading tone and the tonic.

3.3   Pachelbel, *Alle Menschen müßen sterben*

Many of the chorale tunes that undergo chromatic treatment, such as *Da Jesus an dem Kreuze stund* and *O Gott, du frommer Gott*, share a particular rhythmic pattern, one in which quarter and half notes dominate. In others, eighth-note melodic passing tones are negated by or incorporated into the chromatic variation without noticeable rhythmic acceleration. For example, the theme of Pachelbel's *Was Gott tut* has an eighth-note C in m. 2, which remains an eighth note unelaborated by chromatic passing tones in the seventh variation, and the neighbor eighth note in m. 3 of the tune is eliminated altogether. Pachelbel's variation set based on *Alle Menschen müßen sterben* (Example 3.16) embraces the chorale tune's eighth notes as a vital generator not only of chromatic passing tones but also of a much faster rhythmic pattern that persists throughout the movement.

Example 3.16: *Alle Menschen müßen sterben*, chorale tune.

What potential do these eighth notes hold? The passing tone G in m. 2 could be the last pitch of a three-note figure, A-G♯-G(♮), in which the G♯ appears on beat 2 and the G(♮) stays in its original metrical position. If the composition would benefit from an off-the-beat chromatic passing tone instead, the G could be moved to the onset of beat 2, with an eighth-note G♯ immediately preceding it. However, at similar moments in other chromatic variations where the theme's passing tone participates in a $\hat{5}$-$\hat{4}$-$\hat{3}$ motion—*Christus, der ist mein Leben* and *Was Gott tut, das ist wohlgetan*, both by Pachelbel—he takes neither of these options. Instead, he chooses to harmonize chromatically or diatonically rather than elaborate the melody, perhaps due to that figure's likely participation in a V^7-I progression. In m. 2 of *Christus*, $\hat{5}$-$\hat{4}$ receives the support of bass note $\hat{5}$ and an elaborated alto note $\hat{7}$, while, in the slightly more adventurous *Was Gott tut*, the $\hat{5}$-$\hat{4}$ motion in m. 2 is harmonized with with ♮$\hat{7}$-♯$\hat{7}$ in the alto, chromatically wending its way up from $\hat{6}$ to reach a dominant in G major. It may lack elaboration because the three-note figure does not consist of two successive whole steps, which would allow for a five-note chromatic line; instead, the last interval, from $\hat{4}$ to $\hat{3}$, is a half-step, so there is less chromatic potential than in other three-note fragments.

Example 3.17: Pachelbel, *Alle Menschen müßen sterben*, var. 7.

In the chromatic variation of this tune, shown in Example 3.17, Pachelbel takes quite a different approach with the $\hat{5}$-$\hat{4}$-$\hat{3}$ passing line. Rather than keeping the line intact, as in his other variations, he elaborates the passing tone with the sixteenth notes G♯ (♯$\hat{4}$) and G ($\hat{4}$)—an unusual move, considering that none of his other chromatic variations uses sixteenth notes to elaborate the melody chromatically. This descending line forms part of the chromatic variant of the descending tetrachord ($\hat{1}$-$\hat{7}$-$\hat{6}$-$\hat{5}$ becoming $\hat{1}$-♯$\hat{7}$-♮$\hat{7}$-♯$\hat{6}$-♮$\hat{6}$-$\hat{5}$), also called the lament bass. Ellen

Rosand notes that the lament "had enjoyed a special status" in Greek drama, a tradition continued in Baroque opera, especially in Monteverdi, with Arianna's lament in the opera *Arianna* and "Lament of the Nymph" from the eighth book of madrigals.[5] Composers of instrumental music used the lament bass as a basis for a chaconne or a passacaglia, as in Frescobaldi's *Cento partite sopra passacagli* and in works by Martino Pesenti and Giovanni Felice Sances.[6]

This four-note chromatic line is echoed in the $\hat{1}$-#$\hat{7}$-♮$\hat{7}$-$\hat{6}$ motion in the middle voice, stopping just short of a complete chromatic lament bass by moving a whole step down to $\hat{5}$. While the original sixteenth-note run elaborates a V^7-I progression in D major, the echo in beats 3 and 4 does not produce a similar effect in G major, chiefly because the insistent use of D and F♯ in the outer voices firmly establishes D major. The D-C♯-C♮-B line is more effective the second time it occurs, in m. 6: there, it helps to tonicize E minor by providing the $\hat{6}$-$\hat{5}$ (C♮-B) semitone, so its final note B fits into the subsequent chord instead of needing to descend further to fit into the prevailing harmony. The sense of restarting in order to attain or improve a resolution is also found in the chromatic variation of *Da Jesus an dem Kreuze stund* of Scheidt, where the inverted lament bass requires three attempts in order to resolve its final semitone as $\hat{7}$-$\hat{1}$. In addition, the idea of attempting something multiple times to achieve a desired outcome is an outgrowth of the Pattern Principle, which through the repetition of certain motives gives the requisite musical space to try and retry additional ideas.

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[5] Rosand, "The Descending Tetrachord: An Emblem of Lament," *The Musical Quarterly* 65, no. 3 (July 1979), 346-349.

[6] Thomas Walker, "Ciaccona and Passacaglia: Remarks on Their Origin and Early History," *Journal of the American Musicological Society* 21, no. 3 (Autumn 1968), 314-318.

Not only is the A-G♯-G♮-F♯ motive unique for its elaboration of $\hat{5}$-$\hat{4}$-$\hat{3}$, but it is also a common theme in this movement. In fact, it occurs no fewer than seven times in its original form and twice in inversion, as Example 3.18 below indicates.[7] The function of each instance of this line depends on how it continues; for example, in mm. 2, 3, 4, 11, and 12, the line seems to confirm the key of D major, with G♮-F♯ acting as $\hat{4}$-$\hat{3}$, but not all of those chromatic passages end with the F♯. In m. 4, the line continues to F♮ and E, both chromatically leading to a predominant harmony and foreshadowing the A major (dominant) triad by forming the characteristic (♮)$\hat{6}$-$\hat{5}$ semitone of A minor; this same continuation occurs with the line beginning in m. 11. Measure 7, meanwhile, takes a different path, as the A-G♯-G♮-F♯ succession is part of a larger chromatic descent from B, which "overshoots" F♯—one of the goals of a B minor arpeggiation—and descends to E in order to support a predominant (in B minor) before rising chromatically back up to F♯ for the dominant (F♯ major). Finally, in m. 9, the F♯ continues its descent one extra semitone to F♮ such that the figure ends on $\hat{3}$ in D minor, not in D major—a minor-tonic modal mixture found in several other spots here, such as mm. 1–5 and 11. In fact, this shift from major tonic to minor tonic occurs more in this movement than in *Was Gott tut*, perhaps due to the lack of $\hat{3}$ in the melody: in the absence of soprano F♯, the two other voices are able to mix F♮ and F♯ without the danger of clashing with the melodic voice.

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[7] Although the "original" form is not the first four-note chromatic motive to appear—a "transposition-inversion" of it occurs in m. 1—its resemblance to the lament bass justifies its status as the primary form of the motive.

Example 3.18: Instances of A-G♯-G♮-F♯ in *Alle Menschen*, var. 7.
(original form: solid black boxes;
inversions: solid gray boxes;
transposed inversions: dotted black boxes)

Just as the descending line A-G♯-G♮-F♯ has the opportunity to continue and form the (♮)$\hat{6}$-

$\hat{5}$ semitone "characteristic" of A minor, from which the dominant triad A major borrows, the

ascending line F♯-G♮-G♯-A provides the (♯)$\hat{7}$-$\hat{1}$ semitone of A major. In mm. 3–4, 5, and 11–12,

which include both F♮ and E, these descending and ascending lines can indeed be considered a chromatic lament bass and its inversion, serving not the tonic, as in the *Da Jesus* of Scheidt, but the dominant. The descending chromatic figures that only include the original four notes (A-G♯-G♮-F♯) truncate this lament bass in order to maintain the tonal stronghold of D major. The ascending line in m. 10 is an interesting case: it begins on F♯, thus not acting as a complete lament bass, and there are two reasons why a full lament bass is not desirable. First, the initial F♯ of this chromatic line does not begin as a chord tone but acts as an elaboration of the 4-3 (A-G) suspension over the bass; consequently, it is unique among the four-note lines discussed above, as it begins on a non-triadic tone. Second, this figure is imitated in the alto voice starting in the middle of beat 2, and a complete lament bass spanning a fourth would require a dissonant A against the melody's G♯.

There are four transposition-inversions of this four-note chromatic motive that also act as $\hat{6}$-♮$\hat{7}$-♯$\hat{7}$-$\hat{1}$ in some key, contained in dotted boxes in Example 3.18 above. Most of them serve straightforward cadential functions: the B-C-C♯-D in m. 4 corresponds with A-D in the bass for a cadence in D major; the instance in m. 7 creates an applied leading tone to B minor, supporting $\hat{2}$-$\hat{1}$ in the same key; and m. 12 features the same D-major authentic cadence as m. 4. There is, however, an interesting concentration of the figure in mm. 10–11 that coincides with descending-fifth root motion, E-A-D-G. For each of the first three chords, the third is at first a minor third; it is then raised to become an applied leading tone of the next root. For example, the C♮ on beat 2 contributes to an A-minor harmony, but, when it is raised to a C♯, it leads smoothly into the next chord, a D-major triad in 6/3 position. The G-major chord on the first beat of m. 12 receives the reverse treatment, first a major third and then a minor third, so that the circle of fifths does not continue endlessly, and the added B♭ strengthens the applied-subdominant effect of D major.

This thrice-occurring, three-part pattern is one that Harrison points out in *Harmonic Function in Chromatic Music* as a feature of Bach's Fantasy in G major, BWV 542/i.[8]

In fact, imitation in this movement—in mm. 1, 2, 6, and 10–11—figures more prominently than in any of Pachelbel's other chromatic variations and perhaps even Bach's *O Gott, du frommer Gott*.[9] This short passage also projects a definite sense of goal attainment: the F♯-G-G♯-A line resolves to A by itself but is at first unsupported by any bass note, while the succeeding B-C♮-C♯-D figure is only weakly undergirded by $\hat{3}$ in D to confirm its resolution to tonic. Only the third attempt, E-F♮-F♯-G, resolves to G in the bass, thus ending with a root-position chord, and coincides with matching triadic notes in the upper voices, finally bringing everything in alignment and driving the music to its cadence.

One pair of such four-note chromatic figures, the transposed-inverted line in m. 1 and the original form in m. 9, both involve the bass line's harmonization of a melodic pattern. The chorale fragment D-A-B in m. 1 ascends a perfect fourth, then moves down a step; it is accompanied by a chromatically ascending four-note line, with which it forms imperfect intervals, one third and two sixths. In m. 9, when the melody F♯-B-A inverts of this intervallic pattern, the bass line provides a chromatically descending figure that, instead of beginning with a rest as in m. 1, starts with a perfect interval, traveling first to a sixth below the melody, then through the rest of the chromatic figure, by way of two sixteenth-note semitones.

While it is true that not every iteration of the A-G♯-G♮-F♯ motive appears in sixteenth notes, the motive in m. 9 sets a precedent with its two notes G♯-G♮—one that will have far-

[8] Harrison, *Harmonic Function*, 33-34.
[9] Much of the imitation in the chromatic movement of *O Gott, du frommer Gott* is based on the repetition of rhetorical figures, whereas, in this Pachelbel movement, the imitation is stricter, with a clear voice-to-voice transfer of a given motive.

reaching implications throughout this movement. It introduces the notion of a chromatic line in sixteenth notes, setting this variation apart from all of Pachelbel's other chromatic movements, as well as *O Gott, du frommer Gott* of Bach and *Da Jesus an dem Kreuze stund* of Scheidt. Therefore, the elaborations here can cover more tonal ground than in similar works. For example, the bass line in m. 7 features a descent by fifth in the span of just two beats, which would not be possible without the sixteenth notes and which facilitates a speedy turn to the predominant (supported by E) from the tonic (supported by B). A similar fifth descent is found in m. 8, where F♯ moves to B over the course of two beats in order to effect a dominant-to-tonic shift.

As in *Was Gott tut*, the preponderance of local $\hat{2}$-$\hat{1}$ motion increases the presence of the Applied-Dominant Principle in the melody by allowing for the introduction of applied dominants approached from below by semitone. In m. 5, E and D in the melody are harmonized with C♮-C♯-D in the alto line, thus allowing for an authentic cadence in D major; in m. 8, C♯, or $\hat{2}$ in F♯ minor, is harmonized chromatically with G♯-A-A♯. When the middle voice contains $\hat{2}$, it often receives this harmonization, as in mm. 2, 5, 6, and 10 (slightly displaced); however, it does not resolve to $\hat{1}$, possibly because the sparse texture requires that it be elsewhere in order to fill in chords or begin a new idea. For example, the middle-voice $\hat{2}$ in m. 2 is harmonized with ♮$\hat{7}$-♯$\hat{7}$, but it continues with a sixteenth rest, with the bass line providing $\hat{1}$. A similar situation arises in m. 5, when the middle-voice $\hat{2}$ (in A major), harmonized by ♮$\hat{7}$-♯$\hat{7}$ in the soprano, jumps to $\hat{5}$ and leaves $\hat{1}$ for the soprano alone.

Complementary to these applied dominants, applied subdominants are made possible in large part due to the Applied-Subdominant Principle, or the presence of $\hat{6}$-$\hat{5}$ in the chorale melody, which presents an opportunity to use chromatic passing tone ♭$\hat{6}$ and thus strengthen the

applied-subdominant effect; in D major, ♭6-$\hat{5}$ occurs as part of B-B♭-A in mm. 1, 9, and 11. Interestingly, the F♮ in m. 3.4 could act as an applied subdominant to A major, but this path is not taken; the bass line instead moves through B♭—creating a ♭VI chord in D major—down to G. In m. 6, it is the alto that creates the applied-subdominant semitone with (♮)$\hat{6}$-$\hat{5}$ in E minor, working in tandem with the altered soprano line, discussed below.

The metrical positions of non-melodic notes also play an important role in how the harmonies unfold—another connection to *Was Gott tut*. In m. 3.3, the soprano elaboration G♯ occurs on the beat as an accented passing tone; the result is a strong presentation of an applied dominant of A major (V), which is resolved to a vii°⁶ chord. However, at the end of that measure, when neither F♯ nor F♮ can act as an applied dominant, the melodic F♯ is privileged, while the chromatic note F♮ is relegated to the second half of the beat. Although the non-accentuation of the F♮ corresponds to the compositional choice not to use it as part of an applied subdominant to A minor, none of the other places where ♭$\hat{6}$ occurs, even when it is used in subdominant motion to another key, are accented.

The G♯ of the chorale melody is significant in this piece in two ways. First, it appears as part of a melodic figure E-F♯-G♯ that spans three notes a whole step apart; these two successive whole steps have room for two chromatic passing tones to create the five-note chromatic line E-F-F♯-G-G♯. Not only are these notes a whole step apart, but they are also eighth notes, so the possibility for chromatic elaboration is a motivator for the introduction of sixteenth notes, without which the eighth-note line could not include chromatic passing tones. The three-note-turned-five-note line is a melodic feature that makes this chorale tune especially conducive to chromatic variation and pairs with the $\hat{6}$-$\hat{5}$-$\hat{4}$ fragment in m. 11, which is also embellished with chromatic passing tones.

Second, G♯ acts twice as a lower neighbor to A and functions, in the original harmonization, as an applied leading tone to the dominant. The chromatic variation introduces a twist: at these two moments, instead of moving directly to G♯, A descends a whole step to G♮ before ascending back to A via G♯, thereby making the G♯ a chromatic passing tone in the G♮-A line. In both measures, the G♮ is supported by a tonicization of E minor: m. 6 sees (in E minor) $\hat{5}$-$\hat{1}$ bass motion and (♮)$\hat{6}$-$\hat{5}$ in the middle voice; meanwhile, the soprano line approaches the G♮ by whole step to create the line $\hat{4}$-$\hat{3}$. Measure 10 sounds the E-minor triad before the G appears, and the A-F♯-G figure resolves a 4-3 suspension that has been momentarily interrupted by a sixteenth-note rest. Both of these measures, then, involve overall A-G-A motion, with only the second whole step elaborated with G♯; while both instances include the first A over dominant bass note B to outline a V^7, m. 10 delays its resolution until beat 2. A similar technique is found in the chromatic variation of Bach's *O Gott, du frommer Gott*, in which a B♭ and A♮ are added (mm. 6-7) in order to create a longer chromatic line.

Despite some unusual elements, notably the pervasive sixteenth-note elaborations, we can still identify several traits that this chorale melody has in common with other chromatically treated tunes. First, the importance of the whole step cannot be underestimated as a host for chromatic passing tones, especially when two whole steps occur in a row; here, those melodic whole steps are preserved, along with additional ones where the G♯ neighbor appears. Second, the specific whole step $\hat{6}$-$\hat{5}$, when embellished with a chromatic passing tone, creates an applied-subdominant harmony leading to the tonic—global or temporary—that follows. Third, the presence of local $\hat{2}$-$\hat{1}$ resolutions gives rise to $\hat{7}$-$\hat{1}$ in harmonizing voices, and the latter motion gives the effect of an applied dominant. Moreover, this movement shares some smaller traits

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with other chromatic movements, such as the possibility for lament-bass progressions, which is also apparent in Scheidt's *Da Jesus*.

3.4 Johann Sebastian Bach, *O Gott, du frommer Gott*

The seventh variation (Example 3.19) of J. S. Bach's variation set *O Gott, du Frommer Gott*, BWV 767, capitalizes on chromatic passing tones, engages sequences as a chromatic technique, and expands the scope of the chromaticism to include varying the *supplementum*, that is, the subdominant-to-tonic excursion at the end of a phrase that confirms the preceding cadence.

Example 3.19: Bach, *O Gott, du frommer Gott*, BWV 767/7.

(continued on next page)

This movement takes advantage of chromatic passing tones, via the Whole-Step Principle, in both the melody and the accompanying voices. For example, the whole step D-C in m. 3 of the original melody (Example 3.20a) allows for the D-D♭-C line in the soprano line of a hypothetical, "maximally chromatic" variation (Example 3.20b). This pattern is useful in elaborating the chorale tune if it can be harmonized by applied dominants, with the leading tone $\hat{7}$-$\hat{1}$ in some key, or by applied subdominants, with the semitone (♭)$\hat{6}$-$\hat{5}$ in some key. For instance, in m. 3 of Example 3.20b, the chromatic passing tone D♭ functions as the upper voice of an applied subdominant B♭ minor to F minor. Even with fifteen possible chromatic passing tones, nine of which are employed in the movement, their use as applied dominants or subdominants is limited: the E♭ in m. 2 forms an applied $\hat{7}$ in F major, the D♭ in m. 3 an applied $\hat{6}$ in F minor, and the D♭ in m. 12 an applied $\hat{6}$ in F minor.

Example 3.20: *O Gott, du frommer Gott.*

(a) Original chorale melody.

(b) Maximally chromatic version.

If the Whole-Step Principle is extended to two, rather than one, successive intervals, the melodic line would afford a five-note chromatic descent, but this tune only contains one example of this intervallic succession, F-G-A♮ in mm. 5–6; furthermore, this movement does not elaborate it chromatically. However, another way to find three-note lines is to consider the possibility of other voices harmonizing the melody using parallel thirds and sixths. The C-D-E♭ succession in mm. 1–2, for example, would receive parallel lower thirds of A♭-B♭-C, which, as three notes separated by two whole steps, could be elaborated chromatically to create the five-note line of A♭-A♮-B♭-B♮-C; this line is exactly what happens in that measure's bass voice, and again transposed in mm. 7–8, not to mention the echo in the alto immediately afterwards.

There are two unusual spots in the variation itself, mm. 3 and 7, in which modal mixture results from accented, rather than unaccented, initial placement of the chromatic passing tones in the melody. In addition, in m. 7, the G♭ is sustained into the next beat, creating a suspension that

eventually resolves to F; this note contributes to the modally mixed iv^7 in E♭ major. The two measures in which these instances of mixture appear are given in Example 3.21, with additional Roman numeral analysis. It is also worth noting the extent to which transient modulations are used to support chromatic passing tones. In both measures, tonicization of the subdominant harmonizes the chromatic descent in the soprano line, even creating a ♭III chord in the key of A♭, but it is unclear whether it is major or minor. The modal mixture created by chromatic passing tones leaves this matter ambiguous. The first half of m. 7.2 seem to indicate A♭ major, which would be the diatonic subdominant of E♭ major, but second half of that beat, with C♭ and G♭, contradicts that notion.

Example 3.21: BWV 767, mm. 3 and 7.

In addition to the facilitation of modal mixture, Bach takes the role of the chromatic passing tone one step further, to figure prominently in sequences. These progressions, of which there are four, use chromatic passing tones both in the melody and in the other voices in order to create sequential harmonic motion. Example 3.22 labels all such instances, with each sequence receiving its own number; a parenthetical number indicates that it is an echo of an immediately preceding sequence. Predictably, ascending sequences (S-1 and S-3) support ascending chromatic lines, and descending sequences (S-2 and S-4) support descending chromatic lines.

Example 3.22: All sequences in Bach's chromatic variation of *O Gott, du frommer Gott*. (gray boxes: continued from previous system; parenthetical numbers: immediate echoes)

Both types of sequences, ascending and descending, perform different functions regarding chromatic harmony. All of Pachelbel's chromatic variations include applied dominants that are embellished with $\flat\hat{7}$-$\hat{7}$-$\hat{1}$; moreover, both $\flat\hat{7}$ and $\hat{7}$ often appear over the same bass note, either literally or implied through counterpoint.[10] However, in Bach's case, this same three-note succession is harmonized with ascending sequences, turning the applied-dominant chord into a chain of dominant-tonic pairs. For example, the sequence in m. 1 contains the progression VI-V$^{6/5}$/VII-VII-V$^{6/5}$[/i]-i, undergirded by a chromatic bass line that overlaps two instances of $\flat\hat{7}$-$\hat{7}$-$\hat{1}$, one in B♭ major (VII) and one in C minor (i). The sequence in m. 6 (Example 3.23) transposes the bass line of m. 1 down by fifth to the subdominant, but with an interesting twist in the soprano: the melodic line could plausibly and naturally sound A♭ on the first beat of m. 7, but, instead, A♮ appears. In this case, the A♮ acts as a chromatic passing tone not for the chorale melody but for the final *figura corta* of the sequence.[11] By reaching over the actual chorale melody, the figure introduces space for additional chromatic passing tones—not an option for A♭ to G in m. 6, but definitely for B♭ to A♭ in m. 7.

Example 3.23: Analysis of Sequence S-2 (mm. 6-7) highlighting A♮.

V$^6_5$/III III V$^6_5$/iv IV

[10] See, for instance: *Christus*, var. 7, mm. 1.2, 3.1, 6.1, 6.2, 7.4; *Alle Menschen*, var. 7, mm. 1.1-1.2?, 1.3, 2.2, 3.1, 4.1, etc.; *Herzlich*, var. 5, mm. 1.1-1.2, 2.2, 7.1-7.2, 8.3, etc.; *Was Gott tut*, var. 4, mm. 1.3, 1.4, 2.2, 4.1, 4.2, etc.
[11] The *figura corta* consists of two sixteenth notes and an eighth note; it, and other rhetorical figures, will be discussed further in Chapter 4.

The descending sequences do not present as neat an analogue to Pachelbel. In m. 4, the root motion of the descending sequence is E♭-A-D-G, and, while the last two bass notes might look like a V-I progression, that reading is thwarted by the fact that the D triad is diminished, not major; thus, the two pairs of chords that, by their root motion, appear to be dominant to tonic—A-D and D-G—are not. The lack of applied dominants is essential to the harmonization of the chromatic soprano line (in G major) ♭$\hat{3}$-$\hat{2}$-♭$\hat{2}$-$\hat{1}$; that is, without diminished triads and intervals, the chromatic line could not exist in the sequence. An actual applied-dominant root motion from E♭ would be A♭, bypassing $\hat{2}$ completely, and a dominant chord over D that resolved to G would require both F# and A, thus skipping ♭$\hat{2}$. Furthermore, the non-resolving sequence allows $\hat{2}$ and ♭$\hat{2}$ to join in a way that would not be possible with applied dominants; therefore, it facilitates a smooth chromatic line down to the tonic G.

A similar sequence appears in m. 7, with D♭-G-C♭-F root motion if we consider the soprano G♭ to be a suspension eventually resolving to F. In this measure, all descents are by tritone, instead of the combination of one tritone and two perfect fifths in m. 1; again, the tritone root motion facilitates the chromatic soprano line. The diatonic note of A♭, or $\hat{4}$ (in E♭ major), can resolve to $\hat{3}$, which is supported by G; likewise, G♭ (♭$\hat{3}$) can move smoothly to F above the root motion C♭-F. In both sequences (mm. 4 and 7), there is a extension of the Applied-Dominant Principle: the engagement of diminished triads and diminished-fifth root motions to harmonize a chromatic line.

The descending sequence beginning in m. 11 is a different story: it presents two vii°⁷-i progressions without issue, the $\hat{4}$-♮$\hat{3}$-$\hat{3}$-$\hat{2}$ line seamlessly floating above the provided harmonization. What makes this line so much easier to harmonize is the scale-degree identity of the chromatic soprano line: in m. 4, if the E♭ major chord is indeed an applied dominant, it needs

to resolve to A♭ major, so the soprano line B♭ is scale degree $\hat{2}$ in that key. In a V-I progression, $\hat{2}$ resolves by whole step to $\hat{1}$, so a chromatic line from $\hat{2}$ is not possible, and any potential resolution of an applied dominant is thwarted, as in Sequence S-2 (mm. 4 and 7). By contrast, Sequence S-4 (m. 11) works well as a vehicle for applied dominants because the soprano line begins with F, which, in the applied-dominant resolution of C major, is scale degree $\hat{4}$; the half-step resolution from $\hat{4}$ to $\hat{3}$ facilitates a chromatic line.

One more primary vehicle for chromaticism in this movement has to do with the *supplementum*, "an elaborating extension over the final cadence, possibly over a pedal"; although the term was coined by Joachim Burmeister, the concept was revised and renamed several times by later writers.[12] The *supplementum* is essential in Baroque improvisation and serves the important purpose of confirming the key: in this movement, the device occurs either after an authentic cadence (mm. 7–8, 14–16) or in place of one (m. 4).[13] At the very least, the additional measure or so that it provides the composer is an opportunity for increased chromaticism, in the sense that it is receptive to additional musical lines, all of which are susceptible to chromatic treatment. Nevertheless, a closer examination reveals some additional factors at work—not simply an increase in musical surface area—that are useful to our understanding of this movement.

The *supplementum* in m. 4 occurs immediately after the sequence in that measure: as soon as the soprano line ends on G, the final note of the corresponding chorale phrase, the cadential extension begins. This instance is different from the other extensions in the movement

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[12] Dietrich Bartel, "Rhetoric in German Baroque Music: Ethical Gestures," *The Musical Times* 144, no. 1885 (Winter 2003), 15.

[13] In modern music-theoretical thought, the term "plagal cadence" is commonly used for subdominant-to-dominant motion, but the *supplementum* involves a degree of confirmation, following an authentic cadence, that is not necessarily present in plagal cadences.

in that there is no clear authentic cadence in G major. The closest dominant-to-tonic progression is a weak $V^{4/3}$-I in m. 3, after which point the F# does not reappear, despite the clear phrase ending in G major. In m. 4.3, the B♮ acts as an applied leading tone to the key of C minor, facilitating a $V^{6/5}$-i in C minor, followed by a return to G major—a plagal bass motion that occurs constantly in Baroque music as a means of key confirmation.[14] Both the major and minor modes of G are invoked in this measure: the B♮ at the end of the passage creates an unequivocal G major chord, but the shift to the subdominant emphasizes the ♭$\hat{6}$-$\hat{5}$ motion in G major.

In mm. 7–8, the cadential aspirations of the authentic bass motion B♭-E♭ are dashed by the tenor's D♭, which changes the mode of the B♭ major chord; it also foreshadows the IV-I motion of the *supplementum* by converting a V chord in E♭ major (I) into a ii chord in A♭ major (IV). With the arrival of the E♭ bass note and the continuation of the D♭ in the tenor, there is a V^{7}/IV chord, another indication of the subdominant extension, before a IV chord sounds over a tonic pedal. Just as the chromatic line $\hat{7}$-♭$\hat{6}$-$\hat{6}$ facilitates the motion to IV, the line $\hat{6}$-♭$\hat{2}$-$\hat{5}$ provides a return to tonic, giving the subdominant a minor inflection on the way.

The final *supplementum* is the longest: beginning in m. 14, it lasts over two measures, and its harmonic density provides considerable post-cadential interest. What seems like a Picardy third in the middle of m. 14 is transformed into a $V^{4/2}$/IV(iv) with the addition of a B♭ in the bass, as the E♮ is reinterpreted as an applied leading tone to F; although iv or iv^{6} would be the likely goal of a minor-key cadential extension, the chromatically descending bass line facilitates both IV^{6} and iv^{6}. The second beat of m. 15, taken at face value, is a major-seventh chord in 4/3

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[14] See, for example, Bach's *Orgelbuchlein*: *Heut' triumphieret Gottes Sohn*, m. 26; *Jesu, meine Freude*, mm. 6 and 13; *Lob se idem allmaächtigen Gott,* mm. 9-10; Nun *komm' der Heiden Heiland*, m. 10 (over tonic pedal); *Vom Himmel kam der Engel Schaar*, m. 17. An incomplete list from the chorale preludes of Pachelbel: *Allein Gott' in der Höh' sei Her*, first setting, mm. 13, 34; *Allein Gott' in der Höh' sei Her*, second setting, m. 57; *Ein' feste Burg ist unser Gott*, mm. 79-80, *Komm heiliger Geist, Herre Gott*, m. 26; *Wo Gott der Herr nicht bei uns halt*, m. 12.

position, and, in terms of its role in the *supplementum*, it is best interpreted as a combination of different compositional strands. First, it occurs in the middle of root motion G-C-F, which drives the passage harmonically to F minor; the tenor line works with the bass line to form a very short descending-second sequence, in addition to its role as an imitation of the chromatic bass line at the end of the preceding measure. If the alto line's first note in m. 15.2 were an F instead of an E♮, the result would be a sequence with interlocking sevenths. Instead, the repeated notes persist, inverting the soprano motive in m. 13 and emphasizing the E♮'s role as an applied leading tone, not to mention contributing to a verticality with two non-diatonic notes, B♮ and E♮, both approached by semitone. The ensuing F minor harmony moves, via the bass line, through tonic C minor to a 6/3 chord over D♭. This verticality does not work particularly well in C minor, but it does in F minor, as iv⁶; ordinarily, this chord would contribute to a Phrygian half cadence, but the continuation of the sustained C in the outer voices, as well as the instances of E♮ on beats one, two, and three, reject the idea of a half cadence in favor of an ending in the tonic C major. The last F-minor harmony occurs in a metrically weak position during the first beat, when the E♮ acts as one more applied leading tone before cementing its final role as the Picardy third.

3.5   Samuel Scheidt, *Da Jesus an dem Kreuze stund*

Of the chromatic variations studied in this dissertation, Samuel Scheidt's variation of the sixth verse of *Da Jesus an dem Kreuze stund* is unusual for its complete non-elaboration of the soprano line. While Pachelbel's and Bach's variations make use of chromatic passing tones in the chorale melody, this movement (Example 3.24) preserves the melody exactly while varying the three lower parts.

Example 3.24: Scheidt, *Da Jesus an dem Kreuze stund*, verse 6.

The soprano line has plenty of opportunities for chromatic passing tones but does not actually contain any of them; if it is completely unadorned throughout the variation, how can it generate chromaticism? This effect is possible through the chromatic harmonization of the diatonic soprano line, and the accompanying voices assume the duties of chromatic variation by participating in such a harmonization. The passage in mm. 28–29 provides an excellent example of the Whole-Step Principle: the melodic line A-G-F could easily be elaborated to create a five-note descent of A-G♯-G♮-F♯-F♮, turning two whole steps into four half steps. Instead Scheidt uses the bass line to harmonize A-G-F with the parallel sixths C♯-B-A, two whole steps that are filled in chromatically, thereby realizing the potential of the melody via contrapuntal means. This particular bass line is also an example of the lament bass, discussed above; however, this brief illustration of chromaticism-through-counterpoint helps to transfer the Whole-Step principle into other voices easily, while recognizing how the soprano line, while unelaborated, aids in this process.

Comparing this variation to the others in *Da Jesus an dem Kreuze stund* creates an analytical framework and opens some new avenues for exploration. Example 3.25 shows the very beginning of this variation set. Importantly, the first movement is not labeled "Theme" or, as in Pachelbel's variations, "Choral"; it is one verse of many, not labeled as an archetype for subsequent movements to vary. In fact, none of the other verses uses this one as a model: for instance, the second verse sounds similar but features exact imitation, and the third verse is in *bicinium*. A further observation to be made is that this first movement begins with *Vorimitation*, the imitative treatment of a portion of the theme before the entry of the true theme in long note values. This technique can be found in countless Baroque keyboard works, including other chorale settings in the *Tabulatura Nova*; most of Pachelbel's seventy-one *Choralbearbeitungen*,

which are separate from his variation sets; many of Johann Gottfried Walther's *Choralvorspiele*; and several pieces of J. S. Bach's *Orgelbüchlein*.

Example 3.25: Scheidt, *Da Jesus an dem Kreuze stund*, verse 1, mm. 1–10.

The chromatic variation of *Da Jesus an dem Kreuze stund* begins with the same texture as the first movement, but, rather than allowing any kind of fugal exposition, the chorale melody enters in long notes on the downbeat of the second measure. Like other chorale melodies, such as *Herzlich tut mich verlangen* and *Aus tiefer Not*, the tune itself (Example 3.26) is Phrygian, and this modal characteristic creates an oscillation between E minor and A minor. Where, then, does this music reside tonally? Considering the start of this movement to have a tonal center of E makes sense given the point of imitation, which, with E as tonic, comprises the scale degrees $\hat{5}$-$\natural\hat{7}$-$\sharp\hat{7}$-$\hat{1}$. In this subject, the $\natural\hat{7}$-$\hat{1}$ motion, which would conform to the E Phrygian scale, is modified with a passing $\sharp\hat{7}$, creating the dominant-to-tonic progression that is a pillar of tonal music. Importantly, the chromatic passing tone of $\sharp\hat{7}$ initiates Harrison's "characteristic

semitone," creating an applied dominant where one did not previously exist, if $\hat{5}$-$\hat{7}$-$\hat{1}$ is defined as the subject's hypothetical starting point.

Example 3.26: *Da Jesus an dem Kreuze stund*, chorale tune.

The question remains regarding the genesis of the $\hat{5}$-$\hat{7}$-$\hat{1}$ chromatic line. Here, an argument for *Vorimitation* cannot be made: the line $\hat{5}$-$\hat{7}$-$\hat{1}$ does not appear in the chorale tune, so, while it is a point of imitation, it does not predict the following melodic material. However, it is an approximate inversion of the final three notes of the second phrase in m. 5; this subject, therefore, could be considered a preemptive *Vorimitation*, one that looks forward in the chorale to a point past the material that it might otherwise foreshadow. This melodic idea is uniquely suited to imitation in this particular context for a number of reasons, the first of which is that it contains half of a triadic outline, $\hat{5}$-$\hat{7}$, that can be chromatically altered to outline part of the dominant triad, $\hat{5}$-#$\hat{7}$. Even outside the perspective of functional theory, the outline $\hat{5}$-#$\hat{7}$ is contrapuntally strong in its potential for semitone motion #$\hat{7}$-$\hat{1}$ to tonic, as well as the lingering $\hat{5}$, resolved in the next measure to $\hat{1}$. Example 3.27 presents a hypothetical, non-chromatic subject of $\hat{5}$-(♮)$\hat{7}$-$\hat{1}$, followed by its chromatically embellished counterpart. The addition of the D♯ chromatic passing tone is a simple one, requiring only a division of the beat into quarter notes;

moreover, it is the only possible chromatic passing tone in this subject, creating maximum chromaticism without drastic alterations.

Example 3.27: Diatonic (hypothetical) and chromatic (actual) subjects of *Da Jesus.*

A different subject might not work as well. For example, approximately inverting the last three notes of the first phrase to end on E would yield the line C-D-E; if C and D were in half notes, chromatic passing tones could be added easily to the second half of each of those beats so that C, C♯, D, and D♯ were all quarter notes. Although this subject would achieve maximum chromaticism given its outline, it would not have the advantage of beginning on B and ending on E, outlining both an internal dominant triad and the overall tonic: instead, a trajectory from C to E would outline a third that is at once both less significant and more ambiguous—Is it C major? Is it the upper third of an A minor triad?—than Scheidt's original subject. A similar fate would befall the last three notes of the third phrase, in mm. 17–18, which usefully present a leading tone that could transpose to D♯ but which again have the disadvantage of outlining only a third.

In this variation, the chromatic lament bass appears in its full form three times in three different keys, shown in Example 3.28 below: A minor in mm. 4–5, E minor in mm. 6–7, and D minor in mm. 28–29. The first and third instances serve the distinct harmonic functions of confirming the keys in which they appear: the landing of the descent on $\hat{5}$ and the subsequent leap to $\hat{1}$ coincide with $\hat{7}$-$\hat{1}$ in the alto, effectively creating a perfect authentic cadence in the relevant key. One small irregularity, $\hat{3}$ supported by the V chord, could be interpreted as an

anticipation of the tonic harmony, although it may be heard as a V^+ chord. The element of modal mixture is clear here, as it is in other chromatic-lament-bass passages, with $\sharp\hat{7}$ and $\hat{7}$ supporting V^6 and v^6, respectively; likewise, $\sharp\hat{6}$ and $\natural\hat{6}$ (or $\hat{6}$ and $\flat\hat{6}$) support IV^6 and iv^6. In addition, $\hat{1}$-$\sharp\hat{7}$ and $\natural\hat{6}$- or $\flat\hat{6}$-$\hat{5}$ reinforce Harrison's "characteristic semitones," invoking both major and minor qualities and bridging the gap between the two pairs of notes with $\natural\hat{7}$.

Example 3.28: Full forms of the chromatic lament bass in Scheidt, *Da Jesus*.

The descending chromatic line in mm. 6–7 plays a slightly different role. The immediately preceding cadence is in A minor, and the bass line of m. 6 begins on beat 2 with $\hat{1}$. It then travels chromatically down the scale from $\hat{5}$ to $\hat{1}$, an authentic answer to the plagal figure in mm. 4-5. The chromatic notes in mm. 6–7 also create more harmonic action than those in the other two examples: a modern analysis in A minor results in the progression V-V⁶/V-ii°⁶-I⁷⁽⁻⁶⁾-i⁶-

vii$^{o7(-6)}$-It^{+6}/i-i. Two suspensions here deserve some clarification: upon the resolution of the 7-6 suspension above C#, the bass note moves downward to facilitate a minor triad, and, as the 7-6 suspension of the vii^{o6} chord resolves, the bass note moves by semitone to create the interval of an augmented sixth with the suspension resolution G♯. In the first case, the effect of modal mixture is attained, and, in the second, the two lower voices move as close as they can to the tonic via chromatic alterations. It is also worth noting that the alto and tenor voices serve consistent, subservient purposes—the former to create parallel thirds with the bass, and the latter to set up and execute 7-6 suspensions with the bass—while the bass voice creates harmonic interest. Specifically, this harmonic interest is the presence of applied dominants above D#, which supports V^6/V, and C#, which could support V^6/IV but might also be an instance of modal mixture.

The lament bass is not limited to its original form, and Rosand identifies "inverted," "chromaticized," and "arpeggiated" versions. As Example 3.29 demonstrates, this movement makes use of the inverted lament bass several times.[15] The instance in mm. 8–10 lays the groundwork for the other, more complex cases by creating two applied dominants, one with F♯ and one with G♯. Of these applied dominants, the first does not resolve as expected, instead moving to the submediant chord of the applied key (G major), while the second one does, accompanied by a $\hat{5}$-$\hat{1}$ bass motion. Both of these chromatically inflected harmonies contrast with their respective predecessors by offering major-mode versions of what had previously been minor.

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[15] Rosand, "The Descending Tetrachord," 354-355.

Example 3.29: Instances of the inverted lament bass in Scheidt, *Da Jesus*, verse 6.

The passage in mm. 14–19 presents three inverted lament bass lines, separated by an octave and overlapping by two pitches; although they contain the same pitches, they function differently due to their registral positions; in fact, the second and third instances constitute a fulfillment of the failed resolutions of the first. The D-minor triad in m. 14 provides the launching point for an upward chromatic line in the alto voice; B♭, an expected pitch in D minor, gives way to B♮ and thus sets up an applied dominant, as the leading tone to C. However, instead of resolving downward to C, the bass moves up by step, creating a $\hat{5}$-$\hat{6}$ deceptive-resolution

motion in the applied key of C major. The C♮ of the ensuing A minor triad moves up by semitone to become a C♯, which seems to function as the leading tone of a dominant triad in the key of D minor; however, just as before, the bass $\hat{5}$-♭$\hat{6}$ motion prevents a dominant-to-tonic resolution and instead delays any meaningful cadence.

Once the second chromatic line appears in the bass, it assumes the role of resolving what was not resolved previously: in moving to B♮, it supports a V^6 chord in C major, which then resolves to the tonic; similarly, the V^6 in D minor, created when the bass moves upward from C to C♯, enjoys resolution to D minor one quarter note later. This chromatically ascending line is able to achieve resolution because it does not depend on a bass line: it is the bass line. In contrast, the alto line in mm. 14–15, which resolves all its applied leading tones properly, is undermined by the bass line, which does not provide complementary $\hat{5}$-$\hat{1}$ resolutions. In mm. 17–19, the third instance of the inverted lament bass in this passage, the bass line and chromatic line (in the tenor) finally work together to achieve resolution, with one weaker progression, C: V-I^6, and one stronger one, d: V-i. These three lament-bass lines harmonize ascending whole steps in the bass and support this movement's adherence to the Pattern Principle, with the larger goal of strong tonal resolution. While lament bass lines, in both original and inverted forms, appear in other chromatic variations, notably *Herlitz mich tut verlangen* and *Alle Menschen müßen sterben* of Pachelbel, they do not exhibit the same qualities of persistence as they do in the Scheidt; multiple restarts are not necessary in order for these lines to achieve resolution, and their harmonic functions are more local.

Aside from providing cadential material via applied subdominants and dominants, the lament bass is also used to harmonize the melody, forming a pattern throughout the movement. Example 3.30 shows three instances (outlined in rectangles) where the lament bass works with a

three-note melodic figure that begins with a minor third and ends with a step in the opposite direction. When the minor third is ascending, the lament bass appears in its original form; in the opposite case, the lament bass is inverted, with the result of creating thirds and sixths with the melody. In mm. 4–5, the second note of the lament bass (G♯) corresponds to the first note of this melodic figure (B) to create a third; as it descends to F♯, the melody ascends by minor third to produce a sixth, and, finally, both the melody and counterpoint descend to generate another sixth—one third and two sixths in total. With the inverted lament bass, the numbers of thirds and sixths are reversed: in m. 9, the second note F♯ of the inverted lament bass creates a sixth below the melody, while the second and third soprano notes are both harmonized by their lower thirds. The passage in mm. 16–17 is different from its predecessors due to its repetition of the first pitch of the three-note melodic figure: the G sounds twice, so the inverted lament bass must be elongated so that its second and third notes, B♭ and B♮, last for two beats instead of one. Rather than simply harmonize one G with B♭ and one with B♮, Scheidt staggers the ascending chromatic line, maintaining the pattern of an attack on every quarter note and avoiding stasis.

Example 3.30: Instances of $\hat{2}$-$\hat{4}$-$\hat{3}$ harmonized with lament bass.

(a) mm. 4–5.

(b) mm. 9–10.

(c) mm. 16-17.

Is this variation really that different, then, from the relatively homophonic chromatic variations of Pachelbel and Bach, such as *Was Gott tut* of the former and *O Gott, du frommer Gott* of the latter? On the surface, they appear to have little in common with the chromatic variation of *Da Jesus*; however, Scheidt's movement still harmonizes the melody chromatically, not only borrowing from opposite modes using applied dominants and subdominants but also using the chromatic lament bass as a tool for making varied counterpoint with a diatonic melody. Therefore, the Pattern Principle plays a large role in the musical development of this movement, as does the Whole-Step Principle, especially in the contrapuntal harmonization, and subsequent passing tones, of the melody with parallel sixths.

CHAPTER 4: TWO NEWLY COMPOSED CHROMATIC VARIATIONS

4.1   Goals of Model Composition

This chapter is partially a study in possibility: which chorale tunes could have been treated chromatically but were not? How do they align with the principles set forth in the previous chapter? I have written two new chromatic variations, using Pachelbel's movements as models, in order to test these principles for their accuracy and efficacy. A successful generalization of the compositional principles and tendencies of this particular segment of the keyboard repertoire will help inform new compositions.

4.2   *Freu' dich sehr, o meine Seele*

The chorale tune *Freu' dich sehr, o meine Seele* (Example 4.1) appears in Pachelbel's collection of chorale partitas but does not receive the chromatic treatment of other tunes: the eighth variation of the set presents the tune in *bicinium*, where the melody is completely unadorned and the accompanying voice comprises constantly running sixteenth notes ascending and descending by semitone. However, the tune has the potential to be harmonized in the relatively homophonic style of *Was Gott tut* and, to a lesser degree, *Alle Menschen* in its adherence to the principles discussed in the last chapter.

Example 4.1: *Freu' dich sehr*, chorale tune.

Stepwise motion in the chorale melody is plentiful, and, since the diatonic scale contains five whole steps, the presence of the Whole-Step Principle is likely; indeed, there are twenty-eight whole steps in the melody that can be embellished with chromatic passing tones, all of which are given in Example 4.2.[1] Of course, as my analyses of two of Pachelbel's chromatic movements reveal, not all of these opportunities were taken, and we thus have the task of privileging certain chromatic passing tones over others. This topic is where two of the other principles enter, Applied-Dominant and Applied-Subdominant, for the chromatic notes to consider first are those that allow for applied semitones $\hat{7}$-$\hat{1}$ or $(\flat)\hat{6}$-$\hat{5}$ in reasonable keys.

Example 4.2: Possible chromatic passing tones in *Freu' dich sehr*.

The most common applied-subdominant semitone in Pachelbel's variation sets is in the dominant: $\hat{6}$, or $\hat{3}$ in the main key, is lowered to $\flat\hat{6}$ ($\flat\hat{3}$), which acts as a passing tone to $\hat{5}$ ($\hat{2}$), as seen in *Christus*, mm. 3.3, 6.4, and 7.3; *Alle Menschen*, mm. 1.4, 9.3, and 11.1; and *Was Gott tut*, mm. 6.4, 9.2, and 9.4. Based on the harmonic plan I had in mind—namely, a cadential 6/4 on the

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[1] The faster notes in mm. 9 and 11 have been embellished with chromatic passing tones only if those pitches can be added as eighth notes; this decision results in occasional chromaticism on the beat, as in mm. 9.2-3 and 11.4-12.1.

downbeat of m. 4, a non-dominant harmony in mm. 5.2 and 8.4, and a dominant harmony in m. 13.1—I decided to add this chromatic passing tone only once, at the end of m. 12. Besides the dominant, the $\hat{6}$-$\flat\hat{6}$-$\hat{5}$ effect occurs frequently in tonic, as in *Christus*, m. 2.4; *Alle Menschen*, mm. 1.4, 9.3, and 11.1; and *Was Gott tut*, mm. 2.4 and 5.1 (back-relating). I was judicious in my usage of this effect as it applies to tonic and added the E♭ passing tone in m. 2.3, but I preserved the quarter-note E in m. 7.3.

Determination of possible applied leading tones is less straightforward because, in Pachelbel's variations, they appear with more variety as to their local keys. In the melody, I selected three chromatic passing tones that would act as $\hat{7}$ leading to $\hat{1}$ in some key: in m. 5.2, the C♯ resolves to D as part of a D-major chord; in m. 6.2, the A♯ participates in a cadence in B major; and, in m. 10.1, the G♯ leads to an A-major chord. This chord will, through chromatic bass motion, act as the predominant of an eventual imperfect authentic cadence in E minor on the downbeat of m. 11. Pachelbel's variations show careful selection of melodic chromaticism, with more of an emphasis on chromatic accompanying voices; thus, my soprano line for *Freu' dich sehr* (Example 4.3) has six chromatic passing tones: two applied subdominant, three applied dominant, and one applied chordal seventh that is part of a V$^{6/5}$/IV chord (m. 2.2).

Example 4.3: *Freu' dich sehr* melody, embellished with select chromatic passing tones.

One of my priorities was continuous eighth-note motion, so I made sure that there was some new attack on the second half of each beat, with the exception of the cadential moments in mm. 4, 6, 8, 11, and 13; the next task was working out a suitable bass line to arrive at those places. This first measure of this tune shares its initial three notes with the first full measure of *Was Gott tut*, so I borrowed Pachelbel's idea to place an F♮ in the bass supporting $\hat{2}$, followed by the passing tone F♯. In m. 2, the bass line F♯-E-D, with two whole steps, can harmonize the melodic fragment A-G-F♯, which only has one whole step, thus increasing the possible number of chromatic passing tones and increasing this setting's connection to the Whole-Step Principle. With the bass line for the first two measures almost completely written, I decided to work out where it could exhibit applied-dominant and applied-subdominant characteristics. There were two possible beats in m. 3 where dominant harmony was possible and where the preceding soprano note could fit into a subdominant chord; I decided to take both of those opportunities and support both G in m. 3.1 and C in m. 3.4 with the bass eighth notes E-E♭, creating an applied subdominant of D. As for applied dominants, the $\hat{2}$-$\hat{1}$ motion in D major mm. 7.3–7.4 and 12.1–12.4 worked well with C-C♯-D, or ♮$\hat{7}$-(♯)$\hat{7}$-$\hat{1}$ in the dominant. In addition, mm. 5.1–5.2 has the soprano line $\hat{2}$-$\hat{3}$ in A minor, and mm. 9.4–10.1 has $\hat{4}$-$\hat{3}$ in E minor; both of these imperfect-cadential pairs could also be harmonized with applied dominants in the bass. After filling in some gaps and adding two more applied-dominant leading tones in E minor, in mm. 5.4 and 8.1, I arrived at the bass line in Example 4.4.

Example 4.4: Model composition of *Freu' dich sehr*, outer voices.

Finally, since I wanted to emulate the three-voice texture of *Was Gott tut*, I needed a

middle voice that would propel the eighth-note rhythm when necessary and that would contribute

chromatic events of its own. Since Pachelbel uses ♮$\hat{7}$-(♯)$\hat{7}$-$\hat{1}$ to accompany D-G root motion in

mm. 2.2, 4.2, 5.4, and 10.2 of *Was Gott tut*, I added the same device to mm. 4.2, 12.3, and 13.2.

In addition, dominant-to-tonic melodic motion in mm. 8 ($\hat{2}$-$\hat{1}$ in A minor) and 10–11 ($\hat{5}$-$\hat{3}$ in E

minor) proved to be good candidates for applied dominants in the middle voice, whose leading

tones are approached by semitone from below. The last motive that I added to the middle voice

was to create the sense of an applied dominant where one did not previously exist: the instances

of the bass note B in mm. 7.2 and 9.2 are both followed by C, so it is possible to reinterpret each

B as an applied leading tone to C. In a major key, V/IV is diatonic and therefore not obviously

signaled, so the chordal seventh, which is not diatonic, is necessary; an F♮ in each of these

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measures, preceded by an F♯ for the three-note chromatic line F♯-F♮-E. Example 4.5 shows the finished model composition, incorporating three of the four tune-based principles described in Chapter 2.

Example 4.5: Complete model composition on *Freu' dich sehr*.

4.3   *Jesu, meine Freude*

Pachelbel's chromatic setting of *Was Gott tut*, in its maintenance of a consistent eighth-note rhythm, uses sixteenth-note rhetorical figures occasionally, but such restraint is not the case for any of the composer's other chromatic variations, nor for Bach's *O Gott, du frommer Gott*. Of the available rhetorical figures, *Was Gott tut* exclusively uses the *figura corta*, which consists of one eighth and two sixteenth notes or vice versa, ten times; by contrast, the seventh variation of *Christus* has sixteen, averaging two per measure.[2] *Alle Menschen* is even more extravagant, using the *corta* (e.g., mm. 2.2, 3.1, 4.1), *tirata* (e.g., mm. 3.4, 5.3, 6.4), and *suspirans* (e.g., mm. 2.3, 4.4, 5.1) figures throughout the movement. Example 4.6a presents definitions of these figures, while Examples 4.6b-d shows how the figures appear in the first four measures of Pachelbel's three chromatic variations.[3] Therefore, it makes sense to approach one of my model compositions from a figural standpoint, borrowing from *Christus* and *Alle Menschen* not only their usage of rhetorical figures but also their imitative qualities.

Example 4.6: Rhetorical figures in Pachelbel's chromatic variations.

(a) The figures and their definitions.

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[2] Joel Speerstra, *Bach and the Pedal Clavichord* (Rochester, N. Y.: University of Rochester Press, 2004), 121-3.
[3] Ibid.

(b) *Was Gott tut*, mm. 1-4.

(c) *Christus*, mm. 1-4.

(d) *Alle Menschen*, mm. 1-4.

Legend:
corta—solid black box;
suspirans—solid gray box;
tirata—dotted black box.

The melody *Jesu, meine Freude* (Example 4.7) does not receive chromatic treatment in any of Pachelbel's, Bach's, or Scheidt's works, but it has quite a bit of potential. The generous amount of stepwise motion leads to the presence of the Whole-Step Principle, such as the $\hat{5}$-$\hat{4}$-$\hat{3}$ descent (mm. 1, 11–12), which in a minor key contains two whole steps, the maximum number possible in a diatonic context. Even a three-note pattern that does not contain two whole steps, such as $\hat{1}$-$\hat{2}$-$\hat{3}$ in m. 5, can be harmonized from below with parallel sixths ($\hat{3}$-$\hat{4}$-$\hat{5}$) that do offer

two whole steps, as long as the chromatic line moves in sixteenth notes; these whole steps, wherever they occur, can be bridged with chromatic passing tones.

Example 4.7: *Jesu, meine Freude*, chorale tune.

As far as particular types of chromatic notes with harmonic implications, the presence of $\hat{2}$-$\hat{1}$ in some key, a feature of the Applied-Dominant Principle, facilitates a leading tone of that key in an inner voice, which can in turn act as a chromatic passing tone between the lowered leading tone and the tonic (e.g., $\natural\hat{7}$-$\sharp\hat{7}$-$\hat{1}$). A lowered leading tone, here $\natural\hat{7}$, is especially appropriate not only for minor-mode music, where it appears more frequently, but also for seventeenth-century, chorale-based music, which still owes some of its character to modal music of centuries past (such as the preserved Phrygian melody of Scheidt's *Da Jesus*). The melodic pair $\hat{2}$-$\hat{1}$ appears in mm. 2 (D minor), 5–6 (D minor), 8 (F major), 10–11 (A minor), and 12–13 (D minor), so there are plenty of opportunities for applied dominants, with the added structural benefit of arpeggiating the tonic triad in the ordering of keys. In addition, just as in mm. 9.4–10.1 of my *Freu' dich sehr* chromatic variation, this tune includes $\hat{4}$-$\hat{3}$, which could also be harmonized with an applied dominant-to-tonic progression, in mm. 1 (D minor), 7 (F major), 10 (A minor), and 12 (D minor), again a large-scale arpeggiation of tonic. The Applied-Subdominant Principle is less of an added feature in a minor-mode melody because such a

melody already contains the semitone motion $\hat{6}$-$\hat{5}$ and no chromatic passing tone is necessary; I will discuss some inner-voice possibilities for applied subdominants as they arise.

First, however, there is a decision as to which rhetorical figure can become a point of imitation, perhaps the central figure of the movement; the *corta*, with its long-short-short pattern, is distinctive and interesting enough that its imitation is notable and could give the counterpoint some momentum. To avoid completely copying *Christus*, where the *corta* also plays a large role, I began the alto figuration diatonically, starting on the offbeat a third below the soprano; this tune has the advantage of melodic stasis from beat 1 to beat 2, so an offbeat pair of sixteenth notes beginning on the third below the melody lands on the beat with a fifth below the melody. From there, chromatically filling in a third while the melody steps down results in a sixth on the next beat. The bass can now begin its imitation in inversion, again starting diatonically, this time continuing for a beat longer than its predecessor until it provides an applied leading tone of the dominant in the middle of a $\natural\hat{7}$-($\sharp$)$\hat{7}$-$\hat{1}$ figure in A major, a pattern that is echoed in the alto in D minor. Example 4.8 shows the opening imitation and the two applied leading tones G♯ and C♯, as well as one additional modification: the B♭ in m. 1.3 of the middle voice acts as a subdominant leading tone to D minor, but, when it resolves, the surrounding triad is momentarily D major; the D-major harmony is the first chord of a major-to-minor modal mixture, and the applied-subdominant effect of B♭ is strengthened by its resolution to a major triad. This D-major triad could also be heard as a back-relating dominant to G minor, with the F♯ acting as an applied leading tone to G.

Example 4.8: Model composition on *Jesu, meine Freude*, mm. 1–2.

In keeping with Pachelbel's style, I kept the number of chromatic passing tones in the soprano line fairly low, adding them in mm. 1.4, 3.2, 9.2, and 10.2 (Example 4.9). All are on the beat because I wanted to emphasize shifts in quality, either from major to minor or vice versa; for example, the B♭ in m. 3.2 is immediately after another modal change, from D major to D minor on the first beat of the measure (Example 4.10a). By occurring directly on the second beat, it allows for the quality changes to take place over a greater stretch of time—two beats, the first of which is F♯-F♮ and the second of which is B♭-B♮—rather than all at once. In m. 10, instead of changing the quality of a single triad, the C♯-C♮ change is accompanied by an alteration of the chord root from A to F, mimicking the D-B♭ root motion in *Was Gott tut* at the end of m. 7 (Example 4.10b).

Example 4.9: Model composition on *Jesu, meine Freude*, melodic passing tones.

Example 4.10: Two on-the-beat passing tones in *Jesu, meine Freude*.

(a) m. 3.2.

(b) m. 10.2.

Unlike my approach to *Freu dich sehr*, I wanted to incorporate the Pattern Principle in *Jesu, meine Freude* by harnessing the reiterations of a recurring melodic idea in order to achieve some large-scale goal. I decided to take the idea A-B♮-C-A-D, or $\hat{1}$-$\hat{2}$-$\hat{3}$-$\hat{1}$-$\hat{4}$ in A minor, and use two slightly different harmonizations to highlight the divergent outcomes of its two instances (Example 4.11). In m. 3, the A-minor quality of the melody is obscured by a progression that briefly tonicizes the global mediant with $V^{4/2}/V$-V-I in F major before returning to D minor via a $V^{6/4}$-I^6 progression over the bass notes E-D; the A-minor melody, then, fails to break free from the global tonic, as it is first confined by F major. In the next measure, the music must remain in D minor to accommodate the melodic C♯ as a half-cadential gesture, and the bass line approaches A chromatically from F. Although the beginning of this pattern's repetition in mm. 9–10 is harmonized the same way, the possibility of a different result is signaled by the bass line's motion to D on the downbeat of m. 10, compared to a return to F in m. 4; the D then descends to A while the soprano line has major-to-minor modal mixture, enhancing its "key of A" quality.

This D-minor chord has thus been reinterpreted as subdominant of A, with the middle-voice F-E motion from beats 1 to 2 of m. 10 acting as an applied-subdominant semitone. The local tonic of A minor is confirmed by a descent from F to D, followed by an ascent through D♯, the applied leading tone, to the local dominant E. Of course, the A-minor area is short-lived, as swirling sixteenth notes in the bass lead the music back to D minor, where it remains through the perfect authentic cadence at the end of the piece, the first and only perfect authentic cadence, accompanied by root motion $\hat{5}$-$\hat{1}$, in thirteen measures.

Example 4.11: Two harmonizations of the A-minor melody $\hat{1}$-$\hat{2}$-$\hat{3}$-$\hat{1}$-$\hat{4}$.

(a) mm. 3–4.

(b) mm. 9–10ff.

The specific compositional moments above, as well as in the rest of the movement (Example 4.12), were informed with two final considerations: using the Continuous-Direction Principle, I double-checked my chromatic lines to ensure smooth, unidirectional motion. In addition, I used the Continuous-Chromaticism Principle to give nearly every beat chromatic motion of some kind. The incorporation of these two principles was important both in the

application and enhancement of the chorale-tune-based principles (Whole-Step, Applied-Dominant, Applied-Subdominant, Pattern) and in the compositional filling-in of gaps and chord tones.

Example 4.12: Complete model composition on *Jesu, meine Freude*.

CHAPTER 5: FINDING CHROMATIC PRECEDENTS IN LATE MADRIGALS

5.1 Chapter Goals and Repertoire

The principal aim of this chapter is seek in late madrigals an antecedent for the chromaticism of the Baroque variation sets, especially relating to instances where the two genres share some characteristics of the six principles discussed in Chapter 3. Specifically, what are some contrapuntal devices in madrigals that give rise to chromaticism, and how do they compare to Baroque keyboard music? I will not attempt a complete analysis of all chromaticism in madrigals—such a study is outside the scope of this dissertation—but will examine chromaticism in light of the music that followed it. It is true that the musical content of the madrigals is strongly connected to the text, such as the slowly ascending line in Marenzio's *Solo e pensoso* emphasizing the text in its solitude; however, in order to make an even comparison between these pieces and the Baroque variations, I will mainly focus on harmonic and melodic devices without giving the text much consideration.

Certain madrigals have been selected for this chapter because researchers have particularly noted their use of chromaticism. The opening of *Moro lasso*, by Carlo Gesualdo, is hailed by Roche as "seemingly prophetic" and appears early in as an example of chromaticism in Dahlhaus's "The Chromatic Technique of Carlo Gesualdo."[12] Similarly, *Solo e pensoso* contains "Marenzio's most extraordinary use of chromaticism . . . entirely detached from the angular polyphony below it."[3] The English madrigals, Thomas Weelkes's *The Andalusian Merchant* and John Wilbye's *Oft have I vowed*, are both featured in Kian-Seng Teo's dissertation,

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[1] Roche, *The Madrigal*, 88.
[2] Dahlhaus, "Zur chromatischen Technik," 5.
[3] Roche, *The Madrigal*, 78.

"Chromaticism in the English Madrigal"; I chose them over other examples in that volume because they display a variety of chromatic techniques that could be explored.[4] Finally, Teo highlights Claudio Monteverdi's *Rimanti in pace* as "one of the few works in Monteverdi's entire madrigal repertory containing the more extended sort of chromatics [seen in *Oft have I vowed*]."[5]

5.2   Carlo Gesualdo, *Moro lasso*

The opening four measures of *Moro lasso* are certainly striking: two pairs of chords, C♯ major to A minor and B major to G major, begin the first phrase, which ultimately cadences in A. This type of chromaticism—two triads (either a major/minor pair or major/major pair) separated by a descending major third—is one which John Clough identifies as a "particularly late-renaissance [sic] quality," that is, one that is "foreign to baroque [sic] style."[6] Even though this specific harmonic progression, requiring an alternation of triad quality in Clough's narrow definition, might not appear in the chromatic variations of Scheidt, Pachelbel, and Bach, there are some devices that look familiar, particularly in root motion by third, seen in such places as Pachelbel's *Alle Menschen*, var. 7, m. 2, and Bach's *O Gott, du frommer Gott*, var. 7, m. 1. Moreover, it can also be described a sequence with descending-step root motion between model and copy harmonized by a chromatic bass line; in *O Gott, du frommer Gott* of Bach, the sequence in m. 1 has ascending-step root motion, and it, too, is harmonized with a bass line that moves only by semitone (Example 5.1). In addition, Bach's variation has a chromatically ascending soprano line that corresponds to the chromatically descending quinto of Gesualdo; the

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[4] Kian-Seng Teo, *Chromaticism in the English Madrigal* (New York: Garland Publishing, 1989) 265-279.
[5] Ibid.
[6] Clough, "Leading Tone," 10.

difference in *Moro lasso* is that the bass and quinto are moving in parallel thirds by semitone, while the corresponding passage in *O Gott, du frommer Gott* does not offer similar parallelism. This progression occurs once more in *Moro lasso,* in mm. 23–26, with a similar effect, although here it is preceded by the D ending of the previous phrase, providing context for the F♯ major chord in mm. 23–24 as a major-third digression from its surrounding D triads.

Example 5.1: Sequences in Gesualdo and Bach.

(a) Gesualdo, *Moro lasso*, mm. 1–4.

(b) Bach, *O Gott, du frommer Gott*, BWV 767/7, m. 1.

The next chromatic passage begins in m. 13 and results mainly from paired imitation, indicated by arrows in Example 5.2a. With the C of the tenore sustained, the altus sounds a third above with an E♭; the subsequent altus line, E♭-E♮-G♯, is imitated at the lower third by the C-C♯-E♯ quintus part in m. 15 (solid arrow). The same kind of event occurs between the basso and canto, where the former's G-E-C♯ line is imitated at the octave by the latter (dashed arrow). In both cases, the imitation is modified rhythmically, preventing contrapuntal errors and allowing for all the voices to end the phrase together; a recomposition in which the rhythms are preserved throughout the imitation is presented in Example 5.2b. Another justification for the rhythmic differences in the original madrigal is that elongation of the canto into m. 15 provides a G where none other would exist, and the compression of the quinto in that same measure allows for a hastening of the advent of the C♯. The rhythm of this passage, in fact, is structured so that every beat has either a chromatic note, as in most cases, or a suspension, as in the first beat of m. 15. The constancy of the chromaticism is an important connection to the Baroque chromatic-variation repertoire: with just a few exceptions, particularly in Pachelbel's *Christus*, var. 7, and Scheidt's *Da Jesus*, verse 6, the chromatic variations studied in Chapter 2 exhibit the same level of saturation of chromaticism and suspensions.

Example 5.2: Gesualdo, *Moro lasso*, mm. 13–16, with annotations.

(a) Original version.

(b) Recomposed for stricter rhythmic imitation.

While mm. 13–16 in Gesualdo's madrigal include primarily upward chromatic alterations, mm. 17–19 offer a complementary lowering effect, with the D♯ in the canto moving to D♮ in the next measure; in these two measures, the chromaticism is less relentless than in the previous four, with just the beginning D♯-D♮ alteration before a diatonic passage takes the music to a cadence in D. The passages in mm. 23-28 and 35-38 of the madrigal are transpositions of mm. 1–6 and 13–16, respectively, with some minor changes in voicing. Measures 17–22, described above as a chromatically lowering passage to counterbalance the mostly ascending alterations of mm. 13–16, does not receive the same transpositional treatment when m. 39 arrives; instead of the canto lowering its C♯ to C♮, the tenor sounds the C♮ while the canto ascends in register to G.

These measures bear some similarity to Pachelbel's chromatic variations in their alteration of thirds and sixths above the bass (Example 5.3). In m. 15 of *Moro lasso*, for instance, the initial minor sixth C above the bass note E becomes C♯ on the second beat—precisely what happens in m. 1.4 of *Was Gott tut*, although there it functions as a contrapuntal approach to D, whereas in *Moro lasso* the two voices do not have that same outward pull. In similar fashion, the canto of mm. 17-18 features the major third D♯ becoming the minor third D♮ over the bass note B. The major-to-minor effect occurs often in Pachelbel's variations, including mm. 2.4 of *Christus*; 3.3, 3.4, 6.4, 9.3, 11.1, 11.3, and 11.4 of *Alle Menschen*; and 2.4, 3.2, 6.4, 9.1, and 9.2 of *Was Gott tut*. However, many of Pachelbel's alterations are in service of an applied subdominant, in which $\flat\hat{6}$-$\hat{5}$ plays an important role (see, for instance, m. 2.4 of *Was Got tut*), while no such functional analogue exists in *Moro lasso.*

Example 5.3: Chord-quality shifts executed above the bass in Gesualdo and Pachelbel.

(a) Gesualdo, *Moro lasso*, mm. 15–18.

(b) Pachelbel, *Was Gott tut*, mm. 1–2.

Legend:
by thirds—black circles;
by sixths—gray circles.

A closer kinship with Pachelbel's chromatic variations can be found in mm. 45–48 of

Moro lasso given that passage's contrapuntal goals (Example 5.4a). In mm. 45–47, F is clearly

established as the pitch center of the music, and the upper voices achieve and decorate thirds and

fifths above the bass. However, things begin to change in the second half of m. 47, where a

foreign E♭ appears as a passing tone between F and D; then, the quinto B♭ is dissonant with both the altus A and the bass F. In pointing out that this passage "does not infringe the rules of counterpoint," Carl Dahlhaus notes that the two lower voices, F and A, are suspended dissonances that are both resolved downward; the fact that the note against which they move changes from B♭ to B♮, while "irregular," does not change the counterpoint.[7] The important characteristic here is that the outer voices, F and B♭, create tension by being as close as possible to the phrase's eventual goal, an E with a fifth above, and it is the movement by semitone, both into and out of this dissonance, that defines the cadence. Pachelbel's movements involve similar raising or lowering of diatonic notes in order to get closer to a local or cadential goal, including m. 7.4 (soprano) of *Christus*; mm. 2.2 (bass), 4.2 (alto), 6.2 (S), 10.2 (S), and 12.2 (A) of *Alle Menschen* (mm. 1-4 shown in Example 5.4b); and mm. 1.4 (S), 4.2 (A), 8.2 (A), and 10.2 (A) of *Was Gott tut*. However, two important differences remain: first, in the above-cited measures, the half-step approach to phrase-ending notes appears only in one voice, where *Moro lasso* is more likely to have several voices moving at once, finally converging upon an agreeable chord like the one in m. 48.2. Second, the Baroque chromaticism generally appears in the context of a larger, unidirectional motion, as in the soprano's descent from B to F♯ in mm. 1–2 of *Alle Menschen*, while Gesualdo's chromaticism can change the direction of the line, as in the quintus line C-B♭-B♮ in m. 48 of *Moro lasso*.

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[7] Dahlhaus, "Zur chromatischen Technik," 5.

Example 5.4: Chromatic contrapuntal approaches in Gesualdo and Pachelbel.

(a) Gesualdo, *Moro lasso*, mm. 45–49.

contrapuntal approach by
semitone to E-B♮ fifth

(b) Pachelbel, *Alle Menschen*, mm. 1–4.

Toward the end of *Moro lasso,* a pattern of descending motion is employed regarding notes that are immediately altered chromatically. In mm. 56–57 (Example 5.5a), the canto F, tied over from the previous measure, moves down to E, elaborates that E with a lower neighbor, then returns through E♭; therefore, it creates an opportunity for a chromatic passing tone by going past its goal note E to a whole step below. The same thing happens in the quinto of mm. 57–58: B moves down to A but then continues down to G before returning chromatically to A. The pattern occurs three more times between this point and the end of the piece, in mm. 58–59 (altus), 60–61 (quinto), and 66–67 (quinto). The idea of creating extra opportunities for chromatic passing tones is explored in mm. 6–7 of *O Gott, du frommer Gott* of Bach (Example 5.5b), as well as mm. 6 and 10 of Pachelbel's *Alle Menschen*. In addition, the suspensions in Bach's movement resolve in a similarly meandering fashion, except, once the resolution note is elaborated by a lower neighbor, each suspension actually arrives at a lower pitch than before: in m. 11, the first soprano suspension F resolves to E♮, moves down to the lower neighbor, and comes back up to settle on E♭; this pattern is repeated for the next suspension (Example 5.5c).

Example 5.5: Creation of additional opportunities for chromatic passing tones.

(a) Gesualdo, *Moro lasso*, mm. 56–57.

(b) Bach, *O Gott, du frommer Gott*, mm. 6–7.

(c) Bach, *O Gott, du frommer Gott*, m. 11.

5.3   Claudio Monteverdi, *Rimanti in pace*

Monteverdi's madrigal *Rimanti in pace* also contains some precedents for later chromatic elaborations, especially in its usage of the $\hat{6}$-♭6-$\hat{5}$ figure and in its incorporation of chromaticism into sequential harmonic motion (Example 5.6). In mm. 55–56, a descending sequence appears, with 5/3 chords based on E♭, D, C, and B♭; intervening 6/3 chords prevent this passage from consisting solely of consecutive fifths. Chew notes that, "since thoroughbass treatises rule that every bass note falling on a *battuta* . . . is to be harmonized with [a 5/3 sonority]," chains of consecutive fifths are "always intrinsically likely" in Monteverdi.[8] Since the chromatic passing tone F♯ between G and F in the alto line would create an augmented triad on the downbeat, this line instead offers a 4-3 suspension G-F over the bass note D; then, in the next measure, it sounds the third, E, as soon as the bass note changes; moreover, that third is lowered in the second half

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[8] Chew, "Perfections," 251.

of the measure to an E♭ before resolving down to D. The next sequence, in mm. 59–61, takes the

E-E♭-D idea one step further by harmonizing it with two different bass notes, speeding up the

harmonic rhythm of the sequence and ending with G in the bass. The presence of G is important

because it allows us to look back at chromatic idea E-E♭-D and reinterpret it as $\hat{6}$-♭6-$\hat{5}$ with G as

the pitch center.

Example 5.6: Monteverdi, *Rimanti in pace*, mm. 53–63.

The final statement of the motive at this pitch level, in mm. 62–63, occurs over the bass line C-G, such that the E and subsequent E♭ provide the effect of modal mixture, major third to minor third, before resolving with bass motion down a fourth. This last instance of chromaticism and its harmonization is identical to the Applied-Subdominant Principle used in the fifth movement of Pachelbel's *Was Gott tut*, mm. 2.4–3.1 and 6.3–6.4; it is also very close to mm. 2.4–3.1 of the same composer's *Christus* if we account for an implied bass note G on the first beat of m. 3, in addition to mm. 3.2–3.3 of Bach's *O Gott, du frommer Gott* if we account for an applied bass note C on beat 2. We also encounter transpositions of this figure, $\hat{6}$-♭$\hat{6}$-$\hat{5}$ harmonized by $\hat{4}$-$\hat{1}$ in some key, in mm. 6.4–7.1 and 9.4–10.1 of *Was Gott tut*, with the bass note G in m. 9.4 considered as applying to the entire beat.

The next few measures in *Rimanti* feature some differently harmonized chromaticism, as in m. 66, in which B♮ changes to B♭ as the quinto changes its pitch from G to F, so the modal mixture is no longer present. Measures 68–69 contain the pattern B♮-B♭-A, this time with both varieties of B accompanied by G in the bass; however, the bass does not descend a fourth or ascend a fifth, as it did before, instead resolving to F, with the triadic root D placed in the canto line. Pachelbel's chromatic variations also offer analogues to this gesture, where the root of the local tonic is not in the bass: mm. 6.4–7.1 and 7.2–7.3 (with a suspension-displaced C in 7.2) of *Christus* and mm. 9.3–9.4 and 10.1–10.2 (both involving bass suspensions on the second chord) of *Alle Menschen*.

5.4   Thomas Weelkes, *The Andalusian Merchant*

Starting in m. 22 of Thomas Weelkes's *The Andalusian Merchant*, a highly chromatic section corresponds with the text fragment, "how strangely Fogo burns." Almost immediately,

the pitch center, which had been B♭ major since m. 15, becomes B♭ minor, certainly a "strange"

shift requiring the introduction of D♭. This large-scale modal mixture—effected not from one

chord to the next but from one section of music to the next—is a longer version of the major-to-

minor modal shifts created by the $\hat{6}$-♭$\hat{6}$ motion of the Applied Subdominant Principle; such

changes in Pachelbel's chromatic variations can be found in *Christus*, mm. 2.4, 6.4, and 7.2; *Alle*

Menschen, mm. 9.3 and 11.1; and *Was Gott tut*, mm. 2.4, 5.1, 6.4, 9.2, and 9.4. Occurrences in

Bach's *O Gott, du frommer Gott* are in mm. 3.1 and 3.2, and this device is absent from *Da Jesus*

an dem Kreuze stund of Scheidt. There are also several places in these movements where major-

to-minor modal mixture is achieved when the chord is not functioning as an applied

subdominant, such as m. 7.1 of *Christus*; mm. 3.3, 5.4, and 11.4 of *Alle Menschen*; and mm. 3.3–

3.4, 4.1–4.2, 11.1–11.2, and 12.1–12.2 of *Da Jesus*.

Example 5.7: Weelkes, *The Andalusian Merchant*, mm. 25–30.

(continued on next page)

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Weelkes's madrigal includes an unusual figure in which possible chromatic passing tones are articulated in reverse order such that the line does not continuously move in the same direction; mm. 25.2–26.1 (S1), 27.2–28.1 (A), 27.2–28.2 (T1), and 29.2–30.1 (S2) all include this motive (Example 5.7). Some recomposition might help elucidate a possible reason for this particular motive: Example 5.8 shows alternate alto and first tenor lines for mm. 27–28, where the disjunct three-note chromatic sections are rearranged to create smoothly ascending lines. The original version (Example 5.8a) of m. 27 contains two changes of mode, one from C minor to C major and a subsequent reversal, in both instances initiated by the alto's jagged chromatic line. If that line is made smooth, as in Example 5.8b, the mode only changes once, from C minor to C major, at the very end of the measure; while a high frequency of modal shifts need not be the ultimate goal of a passage, it is something that is lost in the recomposition. The first tenor line of m. 28 does not create the same modal-mixture frequency of its alto counterpart, so a recomposition makes for less of a contrast; however, the intervals between first tenor and first

soprano are certainly less striking in the recomposition, with the original's two tritones changed to a perfect fifth and a perfect fourth.

Example 5.8: *The Andalusian Merchant*, mm. 27–28.

With one exception, all these instances result in immediate major-to-minor mixture; indeed, Kerman points out that "[all] the English examples [of chromaticism in madrigals] use the chromatic passing note in its simplest harmonic position, as the third of a triad, changing it from major to minor."[9] The first soprano line in mm. 25.2–26.1, however, is used to create parallel sixths above the bass; it appears to divert to C rather than continuing down the scale in order to end this particular contrapuntal moment with an octave. In addition, most of these three-note melodic figures do not function as part of a longer line, instead containing two pitches a whole step apart, with their potential chromatic passing tone placed at the beginning instead of between them. The first tenor line in m. 28 is one exception, where G sounds before the three-note figure and C sounds after it; the potential chromatic passing tone B♮ is not taken.

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[9] Kerman, *The Elizabethan Madrigal*, 216.

There are a few measures in *Merchant* that do take advantage of notes separated by whole step, mirroring the Whole-Step Principle of the Baroque variation sets. The bass line in mm. 25–26, for example, elaborates the D-C pair with the passing tone D♭, a device that appears very shortly thereafter in the second soprano and second tenor lines of mm. 25–26. Unlike the bass line in mm. 1-2 of Bach's *O Gott, du frommer Gott*, variation 7, there are no instances in this section of the madrigal that include two consecutive whole steps, which would allow for the maximum number of chromatic passing tones within a diatonic context.

5.5   John Wilbye, *Oft have I vowed*

John Wilbye's *Oft have I vowed* often uses chromaticism to create major-to-minor modal mixture; when this effect appears in Weelkes's madrigal, it is accomplished with the rearrangement of chromatically ascending and descending lines. The immediate shifts in chord quality from major to minor, outside of a larger chromatic or harmonic context, exclusively occur with the change from B♮ to B♭ within a G triad and correspond with the phrases "feeble heart" and "I do languish." In the tenor line of m. 47 (Example 5.9), the line does not continue downward after B♭, but every other instance of this change has a continuation to A, which forms part of a dominant D triad, as in mm. 52 (first soprano), 54 (tenor), 87 (first soprano), and 89 (tenor). These latter instances therefore relate to the Applied-Subdominant Principle because they create ♭$\hat{6}$-$\hat{5}$ of D major over the root motion G-D.[10] Example 5.9 shows the both the continuing and non-continuing instances of B♭ in mm. 45–52.

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[10] From my analysis of Monteverdi, *Rimanti in pace* (p. 107): "This last instance of chromaticism and its harmonization is identical to the Applied-Subdominant Principle used in the fifth movement of Pachelbel's *Was Gott tut*, mm. 2.4-3.1 and 6.3-6.4; it is also very close to mm. 2.4-3.1 of the same composer's *Christus* if we account for an implied bass note G on the first beat of m. 3, in addition to mm. 3.2-3.3 of Bach's *O Gott, du frommer Gott* if we account for an applied bass note C on beat 2. We also encounter transpositions of this figure, 6-b6-5 harmonized

Example 5.9: Wilbye, *Oft have I vowed*, mm. 45–53.

Additional appearances of major-to-minor modal mixture stem either from the preparation of a new chord or the presence of a larger chromatic motive. For example, at the end of the first phrase in m. 3, the alto F♯ is in the second half of the measure lowered to F♮ in order

by 4-1 in some key, in mm. 6.4-7.1 and 9.4-10.1 of *Was Gott tut*, with the bass note G in m. 9.4 seen as applying to the entire beat."

to provide the appropriate inner voice for the ensuing B♭-major harmony (Example 5.10a). This operation on the D-major triad to create a B♭-major chord can, to borrow terminology from neo-Riemannian theory, be described as a PL transformation: the P (Parallel) operation alters D major to D minor, and L (Leading-Tone) turns that triad into B♭ major. Such alterations for the purpose of accommodation appear in Pachelbel's chromatic variations on *Christus* in m. 5.4, *Alle Menschen* in m. 3.4; and *Was Gott tut* in m. 7.4, although, in those cases, the new chord comes immediately after the lowering of the leading tone. The sequence in m. 11 of Bach's *O Gott, du frommer Gott* variation has a modal-mixture effect that is closer to the one seen here in Wilbye: the resolution of the suspension, which in its elaboration seemed to tilt toward the major third E♮, becomes a minor third E♭ in order to prepare the vii°⁷-I progression in B♭ major (Example 5.10b).

Example 5.10: Comparison of major-to-minor modal mixture in Wilbye and Bach.

(a) Wilbye, *Oft have I vowed*, mm. 1–4.

(b) Bach, *O Gott, du frommer Gott*, mm. 11–12.

In the second half of the madrigal, the aforementioned motive that allows for chromaticism and the ensuing modal mixture is the lament bass (also seen in Example 5.9 above). The tenor line of m. 45 anticipates the lament bass with its B♮-B♭ pair but does not go any further; instead, the bass line begins a chromatic lament bass from 1̂ to 5̂, presented in imitation at the octave in the second soprano. Even before the imitation begins, the second soprano line creates parallel thirds with the bass, so the chromatically descending bass line, combined with the presence of the chord root D in m. 46 accomplishes modal mixture, alternating major- and minor-quality 6/3 chords. Because the lament bass begins with two statements of G and one statement of each subsequent note, the second soprano line's G in m. 47 stays constant while the bass notes change from E♮ to E♭, creating another pair of alternating-quality 6/3 chords. In m. 48, the two imitative voices switch roles as the descending chromaticism in the bass comes to rest on D and the second soprano, continuing its descent, gives the two pitches F♯-F♮.

In mm. 46–49, the alto line is a decorated imitation, at the lower sixth, of the second soprano line in mm. 45–48. As the sixth above the bass, it presents the chord roots in the 6/3 chords of mm. 46 and 47, but, once the bass has the root of a hypothetical, perhaps expected, D triad in m. 48, the alto resolves its suspension to B♭; this motion thus subverts the modal-mixture paradigm (two triads, same root) in favor of incorporating the F♮ into a new chord such that the

pair of notes F♯-F♮ are members of two triads with different roots, as in m. 3. As a device that facilitates chromaticism, the lament bass is also used in the *Da Jesus* chromatic variation of Scheidt, but, there, much of its repetition is used in conjunction with melodic patterns of the chorale melody, while the lament bass is not repeated at all in this madrigal after the imitation.

5.6   Luca Marenzio, *Solo e pensoso*

Solo e pensoso by Luca Marenzio takes the idea of the stepwise chromatic line one step further (or several) by beginning with a chromatic ascent in the cantus that spans a ninth, from G up fourteen semitones to A, before descending in the same fashion to the midpoint of that range, D (Example 5.11). This uppermost line is accompanied by an arpeggio figure that, once iterated by one voice, moves on to the next lowest until it reaches the bass. As a result of the arpeggios, finding a plausible bass line right away poses difficulties; Example 5.12 gives an outer-voice reduction of this passage with the best-fitting bass note for the first nine measures of the chromatic ascent, after which the bass line is more straightforward; it should be noted that the applied leading tone F♯ in m. 8 is not followed by its applied tonic G. These measures are somewhat sequential, with root motion ascending by step from model to copy, in mm. 1.1–3.1 (truncated first copy) and 5.1–6.2.[11]

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[11] Sequences are discussed here in terms of the repetition of a single pair of chords at different pitch levels. The first such pair is called the "model," while subsequent iterations are called "copies."

Example 5.11: Marenzio, *Solo e pensoso*, mm. 1–24.

Example 5.12: Marenzio, *Solo e pensoso*, mm. 1–9, with implied bass line.
(Inner-voice applied leading tones are marked by asterisks.)

Overall, the chromatic ascent accommodates the Applied-Dominant Principle due to its many raised chromatic alterations: mm. 2, 5.2 (altus), 6, 8, 12, and 14 all contain applied leading tones that are resolved upward and that correspond with descending-fifth root motion; the only pitch during this ascent that does not resolve as expected is the altus F♯ in m. 8.2, which ties over into the next measure to become part of a B-major triad. When the cantus line descends, the only applied leading tone that resolves upward, the altus F♯ in m. 23, leads to G and is supported by D-G root motion in the bass. This continuous chromatic climb is unique among the madrigals discussed in this chapter: it only appears in one voice, it lasts fifteen measures, and it is, unlike the more scattered chromaticism in *Oft have I vowed*, an integral part of this piece's identity.

The descending chromatic line mostly uses the Applied-Subdominant Principle in order to support its melodic motion with appropriate harmonies. The A-G♯ pair in mm. 15–16 is accompanied by the altus pair C-B, which is ♮$\hat{6}$-$\hat{5}$ in E major; similarly, the next two measures, with a G-F♯ cantus line, contain B♭-A, or ♭$\hat{6}$-$\hat{5}$ in D major. This pattern does not continue regularly past m. 18, but it resurfaces in mm. 21–22, where the cantus presents E♭-D over the root motion C-G. These three instances of applied subdominants act as complements to applied dominants from the first fifteen measures of the piece, with roughly equal spacing between each member of the dominant/subdominant pair: G major has an applied dominant in m. 12 and an applied subdominant in m. 21, D major in mm. 7 and 17, and E major in mm. 5 and 15. Similar formation of dominant/subdominant pairs can be found in mm. 2–3, 5–6, and 9–10 of the chromatic variation by Pachelbel of *Was Gott tut* (see Example 3.14). However, despite these similarities, the ascending and descending whole notes, the defining feature of the beginning of this madrigal, are not found in any chromatic variations.

CHAPTER 6: CONCLUSION

A combination of the German liturgical tradition, variation technique, and contrapuntal mastery, the chromatic variation never ceases to make an impression, even centuries later; Johannes Brahms was particularly "moved" and astonished by Scheidt's chromatic variation (verse 6) on *Da Jesus an dem Kreuze stund*.[1] In fact, the inspiration for this dissertation came during a practice session for Pachelbel's *Was Gott tut, das ist wohlgetan*—I could not believe my eyes and ears as my hands navigated the twisting semitonal motion on an otherwise unremarkable Sunday morning. Remembering that I had also encountered this style of variation during my doctorate in organ performance, when I gave a lecture-recital on Bach's partitas and performed, among other pieces, *O Gott, du frommer Gott*, I wondered which aspects of the tune and harmonization contributed to this effect.

6.1   The Six Principles and Their Efficacy

The lowest level of chromatic embellishment is the humble chromatic passing tone, without any rhythmic or harmonic implications; as its use requires a whole step, the presence of more whole steps encourages more chromatic passing tones. The Whole-Tone Principle takes advantage of the fact that the diatonic scale contains five whole steps, thus allowing for chromatic passing tones between pairs of pitches a whole step apart. In addition, even three notes that are not all a whole step apart can be harmonized, using parallel thirds or sixths, with three notes that are. Although Scheidt's melody is presented unornamented, Pachelbel and Bach both

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[1] Ivor Keys, "The Organist's Repertory 1: Organ Music or Music for Organ?" *The Musical Times* 110, no. 1516 (June 1969), 674.

embellish certain melodic whole steps with chromatic passing tones; in Pachelbel's *Alle Menschen*, for example, fills in the melodic pair A-G with a G♯ in m. 2.2. The soprano lines in my compositions on *Freu' dich sehr* and *Jesu, meine Freude* both use the chromatic line G-F♯-F♮-E, the former to embellish G-F♯-E and the latter to fill in G-F♮-E. These melodic chromatic passing tones are, of all those present in the two model compositions, the least reliant on other principles or harmonic functions.

The power of chromatic passing tones can be harnessed to create applied harmonies, specifically dominants and subdominants. Pachelbel's and Bach's variations especially conform to these principles, with numerous examples of both types of chords in their chromatic movements; the first four measures of *Was Gott tut* (Pachelbel) alone contain six leading tones and one lowered submediant ($\flat\hat{6}$) that appear as part of a chromatic line. The applied-subdominant use of the melodic figure $\hat{6}$-$\flat6$-$\hat{5}$ is common in Pachelbel's chromatic variations, appearing four times in *Was Gott tut*, three times in *Christus*, and five times in *Alle Menschen*; Bach, in *O Gott, du frommer Gott*, uses this melodic figure twice. In the soprano line of *Freu' dich sehr*, the non-diatonic pitches C♯, G♯, and A♯ act as $\hat{7}$ in applied dominants, while B♭ and E♭ act as $\flat\hat{6}$ in applied subdominants.

The last of the melody-related guidelines, the Pattern Principle concerns itself with recurring melodic fragments that can be harmonized different ways in order to create some kind of harmonic trajectory. In the sixth *Da Jesus* verse of Scheidt, the three-note figure $\hat{2}$-$\hat{4}$-$\hat{3}$ or $\hat{4}$-$\hat{2}$-$\hat{3}$ is harmonized three times with a chromatic lament bass; only on the third try does the harmonization achieve stability with a root-position triad. I mirror this technique in *Jesu, meine Freude* by providing two harmonizations for the A-minor melodic fragment $\hat{1}$-$\hat{2}$-$\hat{3}$-$\hat{4}$-$\hat{1}$, the first of which is unable to reach a true A-minor cadence or triad, instead confined to D minor by the

persistence of F major. When this figure returns, the harmonization allows for an arrival on a root-position D-minor triad, which acts as an applied subdominant to A minor and prepares the way for a cadence in that key.

Two principles of continuity, of direction and of chromaticism, help describe the overall motion of a piece by stating (1) that a chromatic tone is approached and left such that it forms part of a unidirectional line and (2) that nearly every moment of a piece involves semitonal activity. These principles hold broadly true for the chromatic variations studied in this dissertation, although there are exceptions, such as the out-of-order C♭-C♮-B♭ in m. 7 of *O Gott, du frommer Gott* and the occasional lack of semitonal motion, most often in *Da Jesus*. In addition, the continuity-focused principles were especially helpful for the compositional filling-in that took place during the process of model composition, where, having decided most of the cadences and applied chords, I still needed to propel the piece in an idiomatic fashion.

6.2   Model Composition and Its Theoretical Implications

The effectiveness of model composition is well established in pedagogy. Maurice Ravel stressed to his students that "[they] can do no better . . . than to say again what has already been said well"; in addition, works in his own *oeuvre* draw on models, as seen in the relationship between the "Forlane" of *Le tombeau de Couperin* and the "Forlane" of Couperin's fourth *Concert royal*.[2] While this technique also figures prominently in major music-theory textbooks, it is aimed at people learning theory and grasping certain concepts, such as voice-leading

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[2] Michael J. Puri, "Ravel's *Valses nobles et sentimentales* and Its Models," *Music Theory Online* 23, no. 3 (September 2017): 1 http://www.mtosmt.org/issues/mto.17.23.3/mto.17.23.3.puri.php.

principles, melodic structure, and form, rather than at music theorists seeking to contribute research to the field.

In this dissertation, I have considered model composition to be an important analytical tool, a way to test the conclusions that I have drawn. If the chromatic variations under investigation do, in fact, share certain principles, then model compositions based on those principles will produce similar results. To some extent, theorists have used composition as a way to further an analysis, such as Matthew BaileyShea in his *Music Theory Online* article "Filleted Mignon: A New Recipe for Analysis and Recomposition."[3] However, for this dissertation, its application is especially useful given the small sample size of only a handful of variations: the importance of turning a critical eye toward generalizations or syntheses creates the need for a means to test their efficacy.

6.3   A Word on Madrigals, and Opportunities for Further Study

A study of chromaticism in madrigals was helpful to my research of chromatic chorale variations, but the results were not necessarily conclusive. It is true that madrigals exhibit the same kinds of applied-dominant and applied-subdominant tendencies as the chorale variations, but, given the contrapuntal importance of the leading tone, such information hardly seems like a revelation. Instead, they possessed chromatic devices, such as the lament bass and the ascending sequence that transferred well to the Baroque variation set and, moreover, that could be expanded upon, such as Bach's use of chromatically assisted sequences in *O Gott, du frommer Gott*. At the same time, there are other features of madrigals that do not appear in the Baroque

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[3] Matthew J. BaileyShea, "Filleted Mignon: A New Recipe for Analysis and Recomposition," *Music Theory Online* 13, no. 4 (December 2007): 1, http://www.mtosmt.org/issues/mto.07.13.4/mto.07.13.4.baileyshea.html.

variations, like the pair of third-related major chords in the beginning of Gesualdo's *Moro lasso*, or the slow semitonal rise and fall in Marenzio's *Solo e pensoso*.

Further research could be conducted to include secular chromatic variations, such as the sixth variation of *Auff die Mayerin* by Froberger. In addition, additional analyses of madrigals could corroborate or augment the library of chromatic techniques found in this dissertation, perhaps making more explicit connections to Baroque variations regarding chromatic precedents. Model compositions could expand in scope to emulate the seventh variation of *O Gott, du frommer Gott* or the sixth verse of *Da Jesus*; the latter, in fact, is particularly ripe for model composition due to its unusualness among the variations in this dissertation.

I have also deliberately avoided overtly textual considerations, instead preferring to focus mainly on harmony and melody in their own right. However, all of the music studied in this dissertation participated in textual expression and symbolism. Thus, another further area of research would be to determine with which chorale texts the variation-set composers were familiar, using the hymnals from their careers as sources, as well as expanding the analysis of madrigals to include text. While comparatively small, the repertoire of chromatic chorale variations is rich with harmonic and contrapuntal techniques, and the continued exploration of this topic demonstrates both unifying principles and different compositional approaches, in addition to offering a glimpse into the colorful, sometimes unexpected sound-world of the Baroque.

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