A METHODOLOGY FOR THE ANALYSIS OF MELODIC ACCENT IN RENAISSANCE SACRED POLYPHONY

by

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We accept this dissertation as conforming to the required standard

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Date April 22, 1996
ABSTRACT

Modern scholars have suggested various approaches to the analysis of the pretonal repertory. However, if we consider the question of how the individual voice parts interact in a Renaissance polyphonic composition to create coherence for the movement as a whole, we find that there are no tools available to undertake such a task. We may be able to speak generally of the arrival of certain moments as relatively accented or unaccented; we may even be able to dissect a complete melodic line with some segmentation process to highlight motivic structure, phrase development or contour-articulated pitch events. But there are no analytic strategies available yet which are capable of disclosing the structures of independent voice parts and their interaction as timepoint-accenting elements capable of creating formal, rhythmic and pitch-class patterns. This study outlines a methodology that has been developed to deal with these specific issues.

The analytic strategy is based on the perception of accents in individual voices of polyphonic works. The types of accents germane to Renaissance polyphony include durational, leap, contour, cadential and beginning-accents. The study proposes a simple, bipartite classification of accentual strength---strong or weak. Each voice part in a work is then analyzed, with every pitch attack represented as strongly or weakly accented through special notation developed for the analysis.
The methodology affords a picture of the most strongly accented timepoints in the individual melodies of three- and four-voice *cantus firmus* masses of the mid- to late fifteenth century. The relative strengths of these accents, along with their synchronization in the multi-voice aggregate, are disclosed through the notation. After renotating scores with this special notational symbology, we extract points of coincident strong accents in three or more voices to create accent profiles for each section of a movement. We then compare profiles of same-texted works by different composers in order to disclose normative formal and pitch-class procedures in some Renaissance compositions.
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Finally, I must express my infinite gratitude to my family for their support: to my wife Carolyn for living with me and giving her unflagging support, and to my children Jessica, Michael and Shamus who so often missed their Dad these last few years. This work is dedicated to them.
Notational Symbols Used in the Analyses

The following table shows the symbols used for the analyses in Chapters 5 and 6. The complete explanations for the use of the symbols is provided in Chapter 4.

Notation for weak- and unaccented pitch attacks.

Unaccented attack: •
Third-leap: ◆
Evaded cadence: ■
Anacrusis: ▲

Notation for strong accents.

<table>
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<th>Parameter</th>
<th>Symbol</th>
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<tr>
<td>Duration</td>
<td>○</td>
</tr>
<tr>
<td>Beginning</td>
<td>△</td>
</tr>
<tr>
<td>Leap/Contour</td>
<td>♦ / ♦</td>
</tr>
<tr>
<td>Cadence</td>
<td>□</td>
</tr>
<tr>
<td>Duration + Leap/Contour</td>
<td>♦ / ♦</td>
</tr>
<tr>
<td>Duration + Cadence</td>
<td>□</td>
</tr>
<tr>
<td>Cadence + Leap/Contour</td>
<td>□ / ♦</td>
</tr>
<tr>
<td>Cadence + Leap/Contour + Duration</td>
<td>□ / ♦</td>
</tr>
</tbody>
</table>
CHAPTER 1

INTRODUCTION

Example 1-1. Josquin des Prez, first Agnus Dei
from Missa L'homme armé sexti toni.¹

¹ Reproduced with permission from Josquin des Prez, Missa
L'homme armé sexti toni, edited by A. Smijers (Amsterdam:
Vereniging voor Nederlandse Muziekgeschiedenis, 1952-63), 125.
A listener interested in the sacred polyphony of the Renaissance may describe the musical events of Example 1-1 with stylistic generalities. The section begins with head-imitation typical of the Renaissance sacred vocal style around the time of Josquin des Prez. There are cadences of varying strengths in mm. 7, 11, 17 and 25, with the strongest occurring last. Imitative sequence permeates the central section of the movement, with the events of m. 17 providing a respite before the sequence is taken up again by the altus in m. 18. These observations—as straightforward as they may appear—do not clarify why the cadences are perceived as having varying strengths, or how cadences in individual voices are or are not coordinated.

Similarly, one may note that the excerpt has several progressions of vertical sonorities that resemble those of later, tonal music. For example, this Agnus Dei appears to define an F-major tonal center, confirmed by the formulaic polyphonic ending in mm. 24-25 that sounds like a perfect authentic cadence in tonal music. Measures 10-11 might be heard as a deceptive resolution in C, while the arrival of the durationally-extended bassus C3 in m. 17 could be perceived as support for a half cadence. It is tempting to use Roman numeral analysis or reductive techniques to show a possible tonal logic underlying those events. Whether or not it is historically or otherwise justifiable as a means of uncovering perceived harmonic relationships, tonal analysis imposes a
homophonic model onto polyphonic music. However, such an approach neither explains how the individual melodies in a polyphonic texture interact to create strong arrivals at specific timepoints, nor provides a methodology that can illustrate that interaction.

Thinking about the rhythmic interaction of the voices leads to some interesting observations and questions. For example, the superius melody in m. 11 lacks any sense of repose, while the altus and bassus melodies clearly cadence. At the same time, the tenor has a strong entry after a full breve rest. In mm. 21-22, the superius comes to the end of a linear segment, then rests longer than it ever does elsewhere, giving a sense of strong cadence. The bassus at the beginning of m. 23 has a strong arrival on F2 which seems to anchor harmonically the full texture, but the remaining voices have no coinciding strong timepoints. These and other similar timepoints have full triadic structures ($3$s), but the sonorities present in mm. 17 and 27 are open structures ($5$. What significance might these timepoints have in terms of the formal structure of this Agnus Dei? The tenor voice presents a simple elaboration of the opening phrases of the "L'homme armé" cantus prius factus. The strongest full-texture events seem to coincide with important pitch events in the cantus firmus (CF), but how does one illustrate that relationship analytically? Furthermore, C5—the highest pitch in the superius—is attacked three times, each time preceded by a
leap and followed by a stepwise descent, each time on a weak part of the mensuration after a beginning or cadential timepoint in one or more of the lower voices. How does the presence of that clearly audible contour/register event interact with or reflect events in the altus, tenor and bassus?

In fact, if one considers the question of how the polyphonic parts interact to create an impression of the movement as a whole, one finds that there are no tools available to undertake such a task. One may be able to speak generally of the arrival of certain moments as relatively accented or unaccented; one may even be able to dissect a complete melodic line with some segmentation process to highlight motivic structure, phrase development or contour-articulated pitch events; but there are no analytic strategies yet available which are capable of disclosing the structure of independent voice parts and their interaction as timepoint-accenting elements capable of creating formal, rhythmic and pitch-class patterns. The goal of this study is to develop such a methodology based on theories of accent perception.

The methodology provides a picture of accented timepoints in the individual melodies of 3-or-more-voice textures. The relative strengths of these accents, along with their synchronization in the multi-voice aggregate, are disclosed through special and specific notation. One will be able to see, for example, how formal structure in a movement is
determined by the coincidence of accents in different voices. The greater the number and strengths of accent at a timepoint, the more a listener will perceive that point as a significant structural event. The analytic strategy will also provide insight into the relationship between the accent structure of the CF and that of the added voices, and thus between important pitch events in the CF and the emphasis of pitch simultaneities at particular timepoints in the full texture. By accent structure is meant the series of melodic accents in a melody or melodic segment. A compilation of the sonorities attacked at these points may help to illuminate the development of triadic awareness on the part of some composers in the late fifteenth and early sixteenth centuries. Lastly, the analysis will permit an investigation of how strongly-accented timepoints do or do not synchronize with the beginnings of notated breves.

The study considers, as its subjects for analysis, five L'homme armé Masses—one each by Obrecht, Ockeghem, and La Rue, and two by Josquin. Analysis of a body of works with the same cantus firmus by composers from different but overlapping generations admits a certain unity while providing a sufficiently varied cross section of styles to validate the methodology. The CF shared by these works also provides a basis for comparison that will lead to hypotheses about different composers' styles as reflections of progressive and conservative elements. These hypotheses will be made easier
by the fact that the analytic results are drawn from only the Kyrie sections of the Masses. This grouping brings out similarities and differences among same-texted movements, and discloses aspects of stylistic similitude or divergence between composers.

Before developing the analytic strategy, however, the present study considers other methodologies developed in recent years. The study then addresses whether there are sufficient grounds for a methodology premised on melodic accent perception. Finally, some definitions specific to the method are presented. Only after these tasks have been addressed can one present the development of the strategy itself. Once this is completed, the study offers analyses from the five L’homme armé Masses mentioned above before assembling data suggested by those analyses and drawing conclusions from that data.
CHAPTER 2
PRESENT STATE OF RESEARCH

Modern scholars have approached the analysis of the pretonal repertory from different perspectives. Most of these strategies have been pitch oriented, with emphasis on either tonal or modal aspects of the music. Some have considered the interaction of polyphonic parts in terms of functional harmonic progression. Others have embraced extensions of the Schenkerian reductive system. Still others have concentrated on the manifestations of mode in music before 1600 by citing contemporary theorists' exegeses of modal issues. These approaches deal with music from plainchant to mid-sixteenth century polyphony. For the sacred polyphonic genres of the Renaissance period, the result has been a vertiginous array of non-standardized and often non-complementary analytic methodologies. This opening chapter begins with an overview of some literature representative of the approaches cited above. This synopsis is followed by a consideration of general theories of melodic analysis proposed by David Lidov and Eugene Narmour. The chapter concludes with a brief description of the methodology posited in the present study.
The Labelling of Functional Harmonic Progressions

Bonnie J. Blackburn sees "no problem in using Roman numerals for root position chords as purely descriptive labels" in the analysis of pre-tonal music.¹ A quarter of a century ago, Don Randel sought a historical justification for applying the label V-I to any pitch succession sounding like dominant-tonic cadences.² He rejects the argument that, because there is no evidence that Renaissance composers perceived them as functional harmonic entities, such successions should not be so labelled.

This view limits the historian's activities to a search for the composer's own analysis of his music--the composer's intentions, in one sense of the word--and this is clearly too limiting. Furthermore, it presents a practical problem in our present study: how can we say that one cadence is a V-I and another is not when they are indistinguishable in the score?³

In other words, Randel suggests that modern theorists can apply the V-I label to these 15th-century pitch successions because the same label suffices for the same-sounding progressions in music of later eras. This approach, he asserts, allows the historian or analyst to "observe similarities in compositions of different composers even if


³ Ibid., 76.
the composers did not think of their own music in similar ways."^{4}

Like Randel, Peter Bergquist seeks tonal idioms in the pre-tonal repertory.

"It would seem that Renaissance music displays characteristics of tonal coherence and directed motion similar to those in the music of later periods. Such coherence and direction in the most meaningful sense constitutes [sic] the tonality of this music.\textsuperscript{5}

Bergquist's study ascertains that "theorists in the sixteenth century clearly made no close approach to defining tonal structure. Their theories of counterpoint . . . barely begin to deal with analysis in the sense in which we now know it."\textsuperscript{6}

Being thus satisfied that contemporary theoretical treatises can be of little aid to the modern theorist, Bergquist follows Salzer's analytic method,\textsuperscript{7} utilizing Roman numerals and tonal scale degrees. He is particularly interested in the role of a dominant sonority.

When the dominant is a major triad the progression I-V-I is unequivocally harmonic. The combination of root movement by a descending fifth with the leading tone assures this with no possible doubt. But if V is a minor triad or an \#5, the harmonic quality is less explicit due to the lack of the leading tone.\textsuperscript{8}

\begin{itemize}
  \item[4] Ibid.
  \item[6] Ibid.
\end{itemize}
Like Randel, then, Bergquist suggests a functional harmonic significance for the succession of two triads of which the first is major and whose roots are a perfect fifth apart. For both authors, the role of that succession as a functional harmonic model reaches back into the fifteenth and sixteenth centuries.

Other scholars have voiced reservations about these wholesale adoptions of tonal analytic methods. Cristle Collins Judd warns against the "assumption of functional progressions" based on present-day perceptions of bass motion. Similarly, with regard to the desire to label Renaissance fourth-leap cadences as the equivalent of tonal V-I cadences, Carl Dahlhaus suggests that "in the 15th and still in the 16th centuries, the leap of a fourth in the bass was considered a subsidiary cadential motive when compared to the descending second in the tenor." Judd and Dahlhaus advise that common practice rules governing vertical succession may not be applicable to Renaissance styles. Because the question of chord labelling in Renaissance music remains under debate, and because the relationship between chord succession in

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10 Carl Dahlhaus, Studies on the Origin of Harmonic Tonality, edited by Robert O. Gjerdingen (Princeton: Princeton University Press, 1990), 90. Dahlhaus cites several reasons supporting the view that these cadences should not be considered as functional harmonic entities equivalent to later authentic cadence constructions.
Renaissance styles and later tonal music is not explored here, this study does not employ a priori functional harmonic paradigms in order to find similarities or connections between modal and tonal music.

The Application of Reductive Techniques

A second aspect of Bergquist's work is his derivation of Schenkerian Ursätze for most of his analyses. Soprano and bass are, in his view, the structural voices in the music, and his graphs comprise standard foreground, middleground and background reductions. Bergquist was not the only scholar to attempt the application of Schenkerian strategies to the pre-tonal repertory. Frederick Bashour twelve years later attempted to establish a more rigorous and systematic approach to the problems of pre-Baroque analysis by considering concepts of modal theory and discant.\textsuperscript{11} To achieve his goal, he proposes a combination of

\begin{itemize}
  \item the melodic principles of Gregorian chant theory and the contrapuntal principles of discant theory--both disciplines undoubtedly understood by medieval and Renaissance composers--with the concepts of prolongation, structural levels, and essential voice leading, as first expressed in the theories of Heinrich Schenker.\textsuperscript{12}
\end{itemize}

\textsuperscript{11} Frederick J. Bashour, "Towards a More Rigorous Methodology For the Analysis of the Pre-Tonal Repertory," \textit{College Music Symposium} XIX/2 (1979). Bashour analyzes one piece--Dufay's chanson \textit{Trop lonc temps}.

\textsuperscript{12} Ibid., 141.
Thus, Bashour adopts an approach that merges concepts of contemporary modal theory with a twentieth-century tonal-analytic strategy. Furthermore, exposing his belief in the necessity of a two-voice framework in Renaissance music, Bashour suggests that "it might be possible to view tonal order in the dyadically-conceived medieval and Renaissance repertory in terms of a hierarchy of prolongations of dyads."\(^\text{13}\) Discant theory suggests that the music may be seen as "a progression of intervals through time."\(^\text{14}\)

The combination of modal theory with modern analytic methodologies posited by Bashour closely resembles Aldrich's 1969 study,\(^\text{15}\) while his consideration of dyadic progression parallels work carried out seventeen years earlier by Richard Crocker.\(^\text{16}\) Crocker believes that the two-voice framework is a vertical conception, with the third voice an "enrichment" of the structural dyad.\(^\text{17}\) He also suggests that pre-tonal and

\(^{13}\) Ibid., 162.

\(^{14}\) Ibid., 149.

\(^{15}\) Putnam Aldrich, "An Approach to the Analysis of Renaissance Music," The Music Review XXX/I (1969): 1-21. Aldrich uses a simplified reductive technique in his article. He derives a background for each analysis without a reading of foreground events. Furthermore, he simplifies the Schenkerian notation to open and shaded oval noteheads only. Bashour emulates Aldrich's notational symbology, but more rigorously attends to foreground reductions.


\(^{17}\) Ibid., 12.
tonal compositional strategies are similar, with the only important difference being that the Medieval system relies on a basic two-pitch unit, while tonal music uses the triad.¹⁸

Judd also attempts to unite a historical-descriptive approach with reductive techniques. Her goal is to "obtain a 'period' understanding of the work and from this formulate analytical tools based on contemporaneous theoretical concepts, to examine the musical object and to place the work in its broader historical context."¹⁹ Specifically, she wants to use a modern analytic methodology in conjunction with cadential elements of modal theory. Like Bergquist, Judd models her methodology after Salzer,²⁰ providing voice-leading graphs [which] are able to demonstrate longer-term motion, connection and structure while reflecting motivic modal considerations; cadential graphs illustrate more immediate components of that structure, formal articulation and contemporaneous theoretical concepts.²¹ The cadential graphs show a prolongation of scale degree 1 in the superius while the voice-leading graphs present the

¹⁸ Ibid., 13.


²⁰ Felix Salzer, op. cit. In Structural Hearing, Salzer applies reductive techniques to a host of pre-Baroque composers, including Josquin, Lassus, Dufay, Dunstable, Frescobaldi, Isaac, Machaut, Leonin and Perotin (see especially Part III Chapter Two in Volume I, 264-281). However, the task of conducting a critical evaluation of his analytic methodology is outside the scope of the present study.

archetypal Schenkerian $\hat{3}\hat{2}\hat{1}$ descent. Judd thus tenders two different final structural cadences—one defined by the tenor in the cadential graph, the other by the bass line of the voice-leading graph. The advantage of her approach, she suggests, is that "[a]pparent 'contradictions' in this juxtaposition provide an understanding of common elements of modality and tonality, those elements which vitiate any attempt to classify works from this period as exclusively modal or tonal." In other words, one is able to distinguish tonal idioms of the work from modal classification schemes.

A later study by the same author continues with the same approach of coordinating contemporaneous and modern strategies, more fully exploring aspects of the former. In addition to the "text, mode, articulation of structure, pitch organization and tonal structure" under consideration in the earlier work, Judd also embraces hexachord theory and such stylistic elements as texture, form, registral articulation and cadence. Her reductions are less strictly Schenkerian here than in her 1985 study, but she still maintains that a cadence in this music must have "a basic two-part cadential framework of superius and tenor which articulates motion to a perfect consonance, normally the octave." Judd's research

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22 Ibid., 223.

23 Judd, Salve regina, op. cit.


25 Judd, Salve regina, 121.
is admirable in its attempt to confront several aspects of the Renaissance style at the same time—problems of mode determination, hexachord theory, text underlay, cadential paradigms and so forth—while exploring the validity of employing a modern analytic system, specifically Schenkerian techniques.

Other authors utilizing a reductive method include Saul Novack, who analyzes Dufay's *Alma redemptoris mater II*. The goal of his analysis is to uncover the structural unity of Dufay's piece by investigating phrasing in the upper voice, cadences, employment of dissonance, and idiosyncratic tonal elements such as use of the dominant, and tonic substitution by VI. His work is permeated with Schenkerian 8-lines, Roman numerals, secondary dominants and prolongations of dominants, but he also maintains that "[m]ode and key are two distinct properties of musical composition which exist simultaneously...". Novack is concerned only with properties of key that seem to exist in Dufay's piece.

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27 Ibid., 109.

28 Ibid., 108.
The theorists who apply a reductive analytic technique to Renaissance music fall into two categories. There are those like Judd and Bashour who use anachronistic twentieth-century listening strategies combined with modal compositional theory of the Renaissance, showing how they work together (Bashour) or independently (Judd) in a piece of music. In contrast, scholars such as Bergquist and Salzer concentrate on hearing apparent tonal prolongational structures in specific works. All the above-cited authors seem to have as their goal the desire to understand Renaissance music in light of its similarities and dissimilarities to later tonal music. The present study does not aspire to that purpose. Because analysis of harmonic function imposes a strategy on one corpus of works with tools developed for another, that approach will always remain suspect for some scholars. The Renaissance repertory and its corresponding body of theoretical writings suggest other methods for evaluating the music from an analytic perspective.

Approaches Using Contemporaneous Modal Theory

Of the scholars who approach the analysis of Renaissance music by way of concepts expressed in contemporaneous treatises, the studies by Rivera and Schubert are considered
Aldrich's work has already been mentioned as an example of this approach combined with modern analytic procedures. Leeman Perkins' imposing study of cadence tones in Josquin's Masses renders an impressive tabulation of that particular aspect of the music. Although his work clearly illustrates the acceptance of multiple cadence tones in each mode during the Renaissance, Perkins does not address any other musical parameters in the Masses.

Benito Rivera, concerned that "we instinctively sense the danger of anachronism when we hear the word 'harmony' applied to earlier periods," broaches the subject of analysis from a compositional perspective.

[W]e now readily acknowledge the presence of a conscious plan governing the behaviour of individual lines and governing even the progression of vertical two-voice sonorities. We conclude that the logic of these elements must indeed have been at play in the composer's mind while putting together the music. But what about the complex interaction of three or four combined voices and their movement from one simultaneous sonority to the next?

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30 Aldrich, *op. cit.*


33 Ibid.
Rivera's work assumes the emergence of a soprano-bass framework in Arcadelt's madrigals. He investigates the two-voice framework of several madrigals by Arcadelt to determine "whether this counterpoint is in any way subject to harmonic influence."34 Citing Gaffurius and Aaron, the author observes that sixths are discouraged between bass and tenor.35 He then assumes that, when possible, sixths are preferred below the soprano in either tenor, alto or bass.36 The result is an incomplete two-voice structure rounded out by what Rivera terms concomitant sixths.37 "At this point we step beyond the threshold of intervallic counterpoint and enter the complex realm of the three-note chord."38 Thus Rivera suggests the beginnings of harmonic-implicative writing based on a two-voice framework, but without imposing the specifics of functional tonality on the composers.

Although Rivera's postulations may inform our understanding of how madrigal composers chose their harmonies and put their pieces together, and how, in part, functional tonality may have developed in the sixteenth century, he does not seem concerned with providing analytic strategies

34 Ibid.
35 Ibid., 74.
36 Ibid., 71. Rivera never provides a justification for this hypothesis.
37 Ibid.
38 Ibid., 82.
illustrating those facets of the music. Nor, understandably, does he venture to suggest rules for chord successions, or whether a composer "sometimes consciously organized his chord progressions in terms of tonics, dominants and subdominants."\textsuperscript{39}

More recently, Peter Schubert has developed an approach to analysis based on the modal principles of Illuminato Aiguino (c. 1520-c. 1582).\textsuperscript{40} Aiguino's treatise "contains, among other refinements of the eight-mode system, the addition of six irregular modes, creating a system containing fourteen modes."\textsuperscript{41} Schubert's goal is to present a method of analysis that relates counterpoint to mode in Renaissance polyphony. Counterpoint in this context must be understood as embracing the building of all types of interval successions; these in turn can be related to the modes through some kind of interval typology.\textsuperscript{42}

His methodology provides a small-scale melodic contour analysis in which changes of direction in each voice of a polyphonic texture signify new intervallic outlines. Where these outlines span a fourth or a fifth, he identifies the

\textsuperscript{39} Ibid.

\textsuperscript{40} Schubert, "Mode and Counterpoint." For more information on Aiguino, see idem, "The Modal System of Illuminato Aiguino" (Ph.D. diss., Columbia University, 1987). The source is Illuminato Aiguino, \textit{Il tesoro illuminato di tutti i tuoni di canto figurato} (Venice: 1581).


\textsuperscript{42} Schubert, "Mode and Counterpoint," 103.
modal species of those intervals as belonging to any of the first through eighth modes. Since "in Aiguino's system [any] fourth or fifth unequivocally signifies a mode," Schubert is able to provide a comprehensive fourth- and fifth-species overview of a complete composition. The resulting tabulation of modal species then shows the predominance of one mode or another. Further ramifications of Schubert's "Aiguinonian analysis" include the identification of commixture, "the relationship of foreign cadences to foreign species," the relationship of formal structure to modal clarity, and emphasis on specific pitch classes by articulation of perfect vertical intervals in the polyphonic aggregate.

The analytic methodology advanced by Schubert is the closest to that proposed in the present study because of its focus on individual melodies in a multi-voice texture. The fact that he is able to identify modal species in Renaissance

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43 Ibid., 105.

44 The piece analyzed in Schubert's study is Palestrina's four-voice motet Dies sanctificatus.


46 Ibid. By the term "foreign species" here, Schubert means modal species of fourth or fifth other than the species particular to the mode of a given piece. A "foreign cadence" occurs when there is a cadence on the final or cofinal of such a species.

47 Ibid., 122.

48 Ibid., 123.
works through the application of a melodic-analytic methodology suggests that modern theorists may concentrate with some confidence on linear features of the music. However, Schubert’s approach reveals little about pitch interaction between the individual voice parts. Indeed, analytic approaches focussing on modal issues in Renaissance music generally do not address the question of how the individual voice parts interact melodically.

The same observation may be made concerning the reductive and functional-tonal strategies. Whereas modal analyses consider the voices as isolated melodies in Renaissance music, functional-harmonic and tonal-reductive approaches simplify the texture to a homophony of triads, principally to illustrate tonal-sounding idioms in Renaissance music as predecessors of a more fully developed system of harmony. These goals stem from a contrast between compositional theory (modal treatises) and analytical theory (functional harmonic approaches). Most studies consider either one issue or the other, and those that undertake both—such as the Judd studies—tend to separate them into concurrent but individual streams.

Melodic-Analytic Strategies

The studies carried out by some of the above-mentioned scholars suggest a trend toward the examination of melodic
issues in Renaissance music, and away from consideration of only vertical structures. This disposition is especially noticeable in the more recent studies by Schubert, Novack, Judd and Rivera. Since discussions of composition generally emphasize melody in Renaissance treatises, an analytic strategy focussing on melody would be well disposed to provide insight into the structure of pretonal music.

David Lidov identifies three different but complementary methods of analyzing melodies.

First, melody may be analysed in terms of culturally inherited abstractions such as modes, metres and genres. This approach refers to traditions. Second, melody may be analysed in terms of its shape, for example, by locating climaxes, tensions and resolutions, structural voices or perceptual Gestalten. This approach addresses psychological factors. Third, melody may be analysed in terms of a logic of relations which mirrors its concrete internal parts. This approach attempts to reveal intrinsic structure in the melody itself.49

The first approach identified by Lidov is represented in the work of Perkins50 and Schubert.51 The second can be found in Judd52 to a certain extent, Sarah Fuller53 and Schubert again. The third approach includes distributional analysis,  


50 Perkins, "Mode and Structure."

51 Schubert, "Mode and Polyphony."

52 Judd, "Salve regina."

the method employed by Lidov in his analysis of the *Lamento di Tristano*, a fourteenth-century monophonic dance pair.\(^54\) This analytic methodology describes a piece of music as a hierarchy in which distinct segments of distinct types are arranged in distinct strata. Such an analysis combines the purviews of what, in respect of a much later repertoire, are called formal and motivic analysis. However, distributional analysis approaches the concerns of those techniques from a more unified and generalized perspective. The source of its generality and unitary perspective is linguistic methodology.\(^55\)

He does not elucidate the relevance of distributional analysis to polyphonic composition, although he suggests that there is a connection.\(^56\) Lidov criticizes the traditional motivic-analytic approach as incomplete, one which "usually traces the development of one or two musical ideas without attempting to account systematically for similarity and contrast of all


\(^55\) Lidov, "The *Lamento,*" 68.

\(^56\) Ibid., 88. Lidov does not explain exactly how his approach may be brought to bear on polyphonic compositions. One can only infer that it could be applied to individual melodies within a multi-voice texture.
material at all hierarchic levels." His distributional approach is also concerned with motivic analysis, but purports to find more complete relationships of motivic similitude or deviation throughout varying levels of structure in a single melody. Thus distributional analysis is exclusively unilinear, and does not provide for the poly-linear concern of multi-part accent interaction expressed in this study.

The possibility still remains for using a reductive approach to melodic analysis, though not necessarily premised on Schenker's philosophies and techniques. Eugene Narmour has criticized Schenker's system on the grounds that "the functional factors of harmonic voice leading always assimilate the functions of melody and rhythm; [they] can never irrevocably modify their harmonic-contrapuntal 'origins.'" Furthermore, Narmour believes that theorists should not presume, "as the Schenkerians do, that melody always serves

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57 Ibid. Lidov's concept of hierarchy is not to be confused with definitions of tonal hierarchy. His is premised on a linguistic model, in which "segments of language form a stratified componential hierarchy . . . where we have not just parts of a sentence but also parts of parts and parts of parts of parts" (Ibid., 68). A second aspect of Lidov's hierarchy is the organization of these parts at different levels into categories or types. In music, the analyst identifies similar and dissimilar motivic units within a string of sound to create one stratum. These units may then be grouped together to create higher levels, or further divided to create lower levels in the hierarchy (Ibid., 69).

58 Ibid., 68.

structurally at the pleasure of the bass line."\textsuperscript{60} Therefore, Narmour proposes his own implication-realization model of analysis for melodies of all eras.\textsuperscript{61} His model is based on perceptions of melodic process, not accent, especially in regard to anticipation or expectation. That is, implication of melodic continuation is based on the "registral direction and intervalllic motion of process [which] sit under the control of bottom-up Gestalt laws—laws governing common direction . . . similarity, proximity or some combination of these."\textsuperscript{62} His is a hierarchic system of analysis that applies to individual elements (pitch, duration), "isolated parametric shapes" (melodic intervals, durational patterns) and form.\textsuperscript{63}

At the heart of Narmour's model is the hypothesis that small melodic intervals imply continuation—i.e., continuing with similar intervalllic motion in the same registral direction—while larger intervals imply reversal of motion and direction.\textsuperscript{64} In discussing the general applicability of his

\textsuperscript{60} Ibid., 65.


\textsuperscript{62} Narmour, \textit{Melodic Complexity}, 2.

\textsuperscript{63} Ibid., 1.

\textsuperscript{64} Ibid., 16. For Narmour, small intervals range from the unison to the perfect fourth; large intervals are perfect fifth to major seventh. The octave is a special case and the tritone is on the threshold between large and small.
model to musical styles, he says that "the theory will analyze (and thus partly explain) all melodies ever written or to be written, regardless of stylistic origin." Despite the universality of his claim, Narmour analyzes only a few short one- and two-voice excerpts from the pretonal repertory. His longest example has only sixty five discrete attacks. One gets neither an adequate historical overview nor a sufficient analytic representation of all musical styles from plainchant to Palestrina on the basis of ten incomplete examples. More significantly, Narmour, like Lidov, does not tackle the problem of inter-part relationships in the polyphonic texture.

The above survey of analytic approaches to the Renaissance repertory discloses two distinct patterns. First, functional-tonal strategies concentrate on the development of harmonic logic in sonority-to-sonority successions. However, because they focus on vertical structures, they tend to reduce melody to voice-leading, ignoring factors of accent. Second,

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65 These analyses may be found in Narmour's Appendix 3, 379-385.

66 It is the analysis, on page 382, of the opening measures of Giovanni da Firenze's madrigal "Appress' un fiume."

67 Carol Krumhansl, like Narmour, has proffered a hybrid strategy--a melodic-tonal methodology that is perhaps best suited to analysis of common practice genres. See Carol L. Krumhansl, Cognitive Foundations of Musical Pitch, Oxford Psychology Series No. 17 (New York: Oxford University Press, 1990). Krumhansl suggests that her work also applies to serial, North Indian and Balinese music (see pp. 240-270).
by contrast, both modal and motivic-melodic strategies elucidate aspects of melodic structure. However, these are generally unilinear and exclude considerations of harmonic structure. Furthermore, none of the approaches takes into account the interaction of individual melodies in polyphonic music.

The approach posited in the present study follows none of the above methodologies, but develops its own in order to address aspects of the music neglected by other theories. The methodology emphasizes the notion that coincident multi-voice melodic accents can mark certain timepoints more strongly than others in a listener's consciousness. The analytic process also allows us to explore the interaction of accented timepoints among all parts of a multi-voice texture. The limitation to cantus firmus Masses from around 1500 provides consistency and focus, but the methodology remains valid for other genres of the time. The present study thus takes a positive step in the direction of developing an analytic methodology that emphasizes the melodic aspects of Renaissance sacred polyphony.
CHAPTER 3
PARAMETERS FOR ANALYSIS

Since this study does not assume priority of pitch structures such as triads, scale degrees or modal finals in Renaissance sacred polyphony, it must find some other way of identifying important events in the music. Yeston reminds us that "pitch configurations may generate rhythmic structures."¹ That is, a string of pitches may be segmented into groups and sub-groups, "rhythmic units within which relative structural importance of pitch-events can be determined."² The term grouping refers to the ways in which a listener segments musical information. For Fraisse, grouping is created by changes in duration, dynamic, pitch, timbre or "lengthening of an interval between two [discrete pitch attacks]."³ This


topic is treated more fully under the "Metric Accent" section of this chapter.

A question arises here concerning the segmentation role of rests in a melody. For instance, although a long silence may create a cadence and therefore function as a group boundary, short silences do not necessarily serve the same function. The term breath rest is invoked here to denote a short rest interrupting a sequence of pitch events for the apparent reason of providing a brief breathing point in a melody. Accentual properties of events are unaffected by these interruptions. Breath rests, therefore, are not boundary inducing. The designation BR is written in the analysis above the relevant point of rest.⁴

Although a breath rest does not define strong boundaries, a longer rest does so by creating a strong ending accent on the attack of the pitch preceding the rest. Moreover, some

⁴ Gioseffo Zarlino, Libro de arte contrapuncti, translated by Guy A. Marco and Claude V. Palisca (New Haven: Yale University Press, 1968), 125. Zarlino discusses the role of breath rests here, pointing out that "[c]hurch musicians write rests in their chants not for ornament but out of need, because it is impossible to sing their chants straight through without resting. So they devised signs to place at points where the performers were to breathe. For this reason the sign was called πνεύμα, meaning breath." Thus, Zarlino makes it clear that the breath rest serves a practical value for the performer, and that it does not function in the same manner as longer rests, whose "function was to indicate an artful inactivity of the voice" (124). See also David Huron and Deborah A. Fantini, "The Avoidance of Inner-Voice Entries: Perceptual Evidence and Musical Practice," Music Perception VII/1 (1989): 44. These authors remind us that "[b]rief rests frequently occur in midphrase without interrupting the sense of continuity; thus musical material immediately subsequent to a brief rest ought not to be regarded as an entry."
pitch attack following the rest may be strongly accented. However, beginning and ending attacks are not the only ones that can be strongly accented in a string of pitches. A string may be segmented into smaller groups of pitches, because some pitch attacks may be perceived as more strongly accented than others. The accents that create the sub-groups may be caused by interval-rhythm patterns, harmonic progressions, or textural elements, among others. The goal of this study is to identify strongly-accented timepoints in the individual melodies of cantus firmus Masses from the late fifteenth and early sixteenth centuries, and to investigate how those accents combine. Reaching this goal first requires identifying which accents are appropriate to hear in this repertoire.

As preparation for the development of an analytic methodology based on the perception of melodic accent, this chapter begins with a definition of accent, then reviews some perceptual and theoretical investigations into the aspects of melody that create accent. These aspects—called accentuating parameters—include duration, leap, contour and cadence. Perception of accent at phrase beginnings and in sequences is also considered in this chapter. So, too, are the roles of text accent and meter.
Accent

Berry defines accent as "relative impulse superiority, in relation to which surrounding impulses at various levels can be seen as 'reactive,' 'anticipative' (anacrustic), and 'conclusive.'" He identifies only strong and weak accents within discrete units at foreground levels. The present study accepts this two-part categorization of accent strengths, and asserts that accent accrues to the attack of a pitch. Accepting Cooper and Meyer's definition of accent as a stimulus "marked for consciousness in some way," Berry states that

[accent in real music [compared to laboratory test patterns] usually involves many element-actions operating together; and while such actions cannot be objectively measured and comeasured, there is no way out of the need to evaluate their cofunctioning if metric analysis is to be carried out.]

Let us determine which elements cause us to perceive strong accents in Renaissance music.


6 Berry also admits a middleground grouping of the longer units into weaker and stronger. In this way, long musical segments can be heard as initiative, conclusive, reactive and anticipative. Berry's dichotomous approach is clearly underscored by his Figure 3-3, a "brief synopsis of some qualities of accent" (see Berry, *Structural Functions*, 345).


8 Berry, *Structural Functions*, 337-338.
Berry includes chromaticism as one of those elements. One can argue that *musica ficta* in Renaissance styles imparts accentual impulse by introducing pitch classes outside a predetermined modal collection. For the purposes of our study, this would apply only to pitches chromatically altered by the composer in the score, because the use of chromaticism where none was notated by the composer remains a subjective performance issue. Since the general role of *musica ficta* in the performance of Renaissance music is still under debate, consideration of chromatic accent is omitted from this study. Berry identifies repeated-note figures as another accentual element.

One might suppose that, other factors being 'equal,' primacy of accentual value accrues to the *first in a series* of contiguous events . . . thus the first in a series of identical units . . . is in this sense 'superior,' and subsequent equal stimuli may thus be perceived as increasingly recessive (redundant).

Our study concurs with this view of accent accrual to the first of several repeated notes.

Berry lists other accentual factors in tonal music, breaking them down into three basic categories: element-changes isolating accentually-superior impulses, "associations

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9 Ibid., 341.


11 Berry, *Structural Functions*, 342.
of impulse functions," and conjectural factors.\textsuperscript{12} Several of the elements he identifies in these categories are applicable to non-tonal music. One such element is duration, a factor in the analytic strategy proposed here. Berry identifies pronounced change of pitch as a timepoint-accentuating element. Here he includes contour, i.e., the exposure of a pitch as the highest or lowest in a string of pitches. This aspect of accent is applicable to any melodic style based on diatonic scale-step patterns; such patterns are manifest in the church modes of Renaissance polyphony. Accent by leap--another facet of pronounced pitch change identified by Berry--is also taken as an accent-defining criterion in this study. Perceptual studies support the notion that these three elements--duration, leap and contour--are accentual components of melody.

\textbf{Durational Accent}

\textit{Durational accent}, also called \textit{agogic accent}, is the term used to identify "the prominence caused by [the] slight lengthening" of a pitch's duration.\textsuperscript{13} Kramer notes that durational accents "are felt at attack points . . . we seem to

\begin{footnotesize}
\begin{itemize}
\item \textsuperscript{12} Ibid., 339-344.
\item \textsuperscript{13} \textit{The New Grove Dictionary of Music and Musicians}, edited by Stanley Sadie, s.v. "Accent" by Robert Donington.
\end{itemize}
\end{footnotesize}
perceive an agogic accent as soon as we hear the note begin."  

Berry asserts that "relatively long impulses often have initiating [accenting] effect."  

Lester points out that "durational accents are powerful in any context."  

Cooper and Meyer also acknowledge that duration contributes to the perception of accent.  

Recent perceptual studies that support this idea include those by Jones and Fraisse.

Leap Accent

Berry asserts that a leap "accents the event following the leap." This assertion is valid for the repertoire considered in this study, because Renaissance sacred polyphony maintained a melodic style modelled primarily on stepwise...

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motion. Thus, accent accrues to the attack of the second of two pitches separated by a large leap.

Monahan and Carterette support the view that listeners perceive smaller leaps as less accented than larger, suggesting that "the larger the pitch difference between succeeding tones, the more likely the second tone will be heard as accented . . ."\textsuperscript{19} Thomassen's experiments conclude that "in principle every change of frequency level between two successive tones can be interpreted as accentuation of the tone that ends the change."\textsuperscript{20} Thomassen also suggests that both upward and downward leaps are accentual, and that perception of relative accent strength depends on interval size.\textsuperscript{21}

The perceptual studies by the above-mentioned scholars, and the work by Thomassen in particular, suggest that intervals smaller than a perfect fourth produce little accent, while those a perfect fourth or larger produce strong


\textsuperscript{21} Ibid. Dowling's results imply that "intervals of the same size can be processed as equivalent, regardless of direction." See W. Jay Dowling, "Recognition of Inversions of Melodies and Melodic Contours," \textit{Perception and Psychophysics} IX/3B (1971): 349.
accents. Since Renaissance melodies are dominated by half- and whole-steps, the attacks of pitches terminating leaps larger than a third are accented, and the attacks of pitches terminating third-leaps are relatively unaccented.

Contour Accent

A melody can change direction without leaping, and often does so in Renaissance music. Contour is the pattern of directional changes in a melody. As Lester asserts, "notes that stand at the top or bottom of a melody or melodic segment are accented." Every change of direction is a contour change, and creates accent. Contour accent, like leap accent, is therefore a consequence of pitch, not rhythm. Perceptual studies, including those by Dowling, Dowling and

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23 Lester, Rhythms of Tonal Music, 33.


Fujitani, Edworthy, and Rosner and Meyer support this notion.

In particular, Rosner and Meyer show that contour properties are as important as melodic processes in a listener's perceptions of a melody as it undergoes change in a work of music. Contour changes and directional changes after leaps are related but separate aspects of music. Dowling asserts that "the melodic contour and the set of interval sizes in a melody are separable features or dimensions of the melodic pattern. Contour and interval size are handled in


different and largely independent ways in cognitive processing."^{30}

Text Accent

Any discussion of accent in a vocal genre must include the role of text accent. However, because the placement of text underlay is a subjective issue in the repertory considered here, we will be limited in our use of this parameter. Accent at any given timepoint may be supported or clarified by a strong syllable in the text. Text accents will be considered only where they help elucidate readings of melodic accents. Furthermore, text underlay will be invoked only when it is clearly the composer's. Editorial text underlay is subjective, and therefore necessarily open to interpretation. This openness makes a weak case for invoking editorial text as a rationale for determining accented timepoints. Differences in typeface clarify between the composer's original underlay and that of editors in four of the Masses analyzed in this study.\(^{31}\) In the remaining Mass by La Rue, still in hand copy, editorial underlay is underlined.

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^{30} Dowling, "Recognition of Inversions," 349.

^{31} The editions of masses by Obrecht, Ockeghem and Josquin all use italics to show editorial underlay.
Accents in Sequences

Melodic sequence is the repetition, in a single voice, of a pattern of rhythms and intervals transposed up or down by some specific interval. The repetition may be exact, in which case the intervals in the pattern are preserved exactly; or it may be diatonic, meaning interval quantities are preserved, but interval qualities change to maintain the integrity of the diatonic collection within which the sequence occurs.

Studies on perception indicate that the accents in a pattern remain invariant when the pattern is repeated in sequence. Jones, Maser and Kidd show that large intervals, rapid contour changes and fast tempo in a melodic segment negatively affect a listener's ability to correctly and accurately identify a transposition of that tune. It is likely that these elements cause problems in identification because they create an overload of accentual information. This would suggest that listeners rely on contour, interval, rhythm and other accent-defining events to perceive sequences.

Royer and Garner support this notion, pointing out that, with repeated hearings, a melodic segment becomes a discrete

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32 It must be clarified that by sequence here I mean the criteria specified in the preceding definition. Most of the perceptual studies employ the term melodic sequence in reference to any set of contiguous, same-voice pitches. Thus the possibility arises for confusion of the two definitions. The present study does not substitute the general term for the specific.

33 Jones, Maser and Kidd, "Rate and Structure," 248-249.
pattern—an "organized entity"—with a beginning and an end.\textsuperscript{34} They also point out that the more frequently the repetition occurs, the more likely is the listener to group the events together as a recognizable, distinct entity.\textsuperscript{35} One may postulate that the accent structure of the segment becomes established in the listener's consciousness to the extent that the repetitions are heard not as a series of discrete event attacks, but as groups in and of themselves.

Beginning-accents

Much of the imitative sacred polyphony around 1500 is characterized by voice entries in the middle of a work or section of a work. Perception of accent on the attack of a pitch beginning a discrete melodic segment is a recognized phenomenon. Berry, for example, points out that "initiative impulses" (beginnings) are accented.\textsuperscript{36} Lester, citing fugue stretto as an example, argues that "accent occurs at the point at which a voice enters."\textsuperscript{37} Thomassen asserts that the first and last attacks in a melodic segment "derive accent from


\textsuperscript{35} Ibid., 45-46.

\textsuperscript{36} Berry, \textit{Structural Functions}, 327.

\textsuperscript{37} Lester, \textit{Rhythms of Tonal Music}, 30.
their very positions."³⁸ Huron modifies Thomassen's assertions by showing that listeners hear single-voice entries particularly clearly in a multi-voice texture.³⁹ According to Huron's study, beginning-accents in polyphonic music are essentially textural events.

Berry also points out that textural changes create accent.⁴⁰ Changes in texture are important for Renaissance music, since every initial voice entry, and every internal entry after a significant period of rest will create a textural accent. Generally, beginning-accents are identified at timepoints satisfying the following conditions. The first pitch attack in any voice part in a movement is strongly accented. A timepoint following an extended period of rest may be beginning-accented, provided the pitch attacked at that timepoint is not anacrustic. Similarly, an entry after a paradigmatic cadence formula may be beginning-accented if there is a significant length of silence between its onset and the termination of the cadence pitch, or if the cadence pitch is extended for a significant duration, and if the beginning pitch is not anacrustic. Specific conditions for beginning-accents are defined in the following chapter.


⁴⁰ Berry, Structural Functions, 341.
Multiple Streams of Accent

The preceding survey of theoretical and perceptual studies makes it clear that our perception of melodic accent is informed by various parameters. Large leaps, contour, duration and grouping all contribute to a listener’s hearing of accented timepoints. However, the question remains whether analysis of individual melodies in a polyphonic texture is practical. It can be so only if listeners are capable of hearing individual voices in a contrapuntal texture, and consequently of hearing the multiple accents that necessarily arise in a multi-voice work.

Andrew Gregory’s study concretely supports this idea.\(^{41}\) The goal of Gregory’s inquiry is to discern whether “listeners to polyphonic music do simultaneously perceive the two or more melodic lines.”\(^{42}\) He uses excerpts from five sources—Palestrina’s Missa Aeterna Christi Mundi and Missa Brevis, a two-voice madrigal, New Orleans jazz polyphony, and the final scene of Act I from Mozart’s Don Giovanni. All excerpts consist of two or three melodic lines. The results demonstrate that listeners are capable of hearing the separate lines in a multi-voice texture, although factors such as contrasting timbre, tonal context and pitch range increase the


\(^{42}\) Ibid., 163.
probability of distinguishing the individual melodies. Huron concurs that musicians listening to homogeneous polyphonic textures are "able to form independent mental images of multiple concurrent voices."\(^{43}\) Our ability to hear accent in multiple concurrent voices is essential in Renaissance polyphony, which is characterized by formulaic patterns in concurrent voices, and by many sophisticated techniques of imitation and voice pairing.

Cadential Accent

One type of accent that is created either by single-voice endings or by the polyphonic interaction of voices, is cadential (ending) accent. Modern scholars disagree about whether cadential attacks are, in fact, accented. Berry asserts that a cadence, which he calls a "conclusive impulse, the last in a reactive series at a given level, is weak at the level of the unit which it concludes."\(^{44}\) Kramer, on the other hand, believes that "a cadence is typically (on some hierarchic level) a point of rhythmic accent."\(^{45}\) Thomassen

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\(^{43}\) David Huron, "Voice Denumerability in Polyphonic Music of Homogeneous Timbres," *Music Perception* VI/4 (1989): 379. Huron also points out, however, that as more voices are added to a texture, the listener's ability to correctly identify the number of voices decreases. Confusion becomes increasingly more common beyond three-voice textures.

\(^{44}\) Berry, *Structural Functions*, 327. See also Berry's more detailed explanation on pp. 329-334.

notes that the longer the melodic segment, the greater the end accent. The present study takes the view that cadence attacks are accented, that "the stability of the cadence . . . is a source of strong accent." Renaissance theorists, although they do not define cadence in psychological terms, do agree that cadences should articulate only certain members of specific modes. Pietro Aaron, for example, lists the proper cadence tones for each mode in his 1521 Toscanello in Musica, as does Glarean in the Dodecachordon of 1547. These are consistent with earlier theoretical treatments of cadence tones in monophonic plainchant.

In the sacred vocal style of around 1500, melodic cadences are simple, single-line endings defined by a significant amount of rest after a pitch ceases to sound. Occasionally, the text makes it clear that an attack serves a


47. Kramer, Time of Music, 84.


cadential function; however, this is only reliable when the text underlay is the composer's, not an editor's.

In addition to these rhythmically-defined cadences in single voices, cadences are created by formulaic patterns in concurrent voices. Example 3-1 illustrates some common paradigmatic two-voice cadence patterns in Renaissance sacred genres. In Example 3-1a, a (usually major) sixth--decorated with a 7-6 suspension--expands to an octave. Example 3-1b, the inversion of 3-1a, uses a (minor) third-unison progression with a 2-3 suspension. The under-third (formerly known as Landini) cadence with embellishing third-leap is shown in Examples 3-1c and 3-1d. Either voice part in these patterns may be approached in different ways. The attack on the perfect octave or unison signals the end of the formulaic group, so it is there that the cadential accent occurs. Since listeners are capable of hearing individual lines in a polyphonic texture, the accent that accrues to the attacks of the pitches completing the two-voice cadence pattern can be heard as concurrent accents in two independent pitch streams.

Example 3-1. Two-voice cadence paradigms commonly found in Renaissance sacred polyphony.
Other modern scholars have discussed how other non-paradigmatic patterns can act as cadences in Renaissance music. Charles Dill suggests that the Renaissance clausula is governed by two necessary conditions: "a point in the music at which there is repose and the intervallic structure by which this repose is achieved." Dill points out that around 1500, cadences "were typically ornamented . . . with a syncopated suspension figure preceding the leading tone. However, the sixth-octave or third-unison cadence may also occur as a "simple cadence" lacking the suspension.

Although Dill makes a strong case for non-paradigmatic two-voice cadences as accentual elements in Renaissance polyphony, he overlooks the possibility of single-voice endings. A melodic cadence is possible in an individual line within a polyphonic conglomerate, without the requirement of a sixth-octave or third-unison counterpoint. This hypothesis--supportive of musical intuition--is confirmed by musical examples. An excerpt from the Sanctus of La Rue's Missa cum

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jucunditate (see Example 3-2) clearly illustrates this possibility. The bassus arrives at a strong stepwise-

Example 3-2. Pierre de la Rue, Missa cum jucunditate, Sanctus mm. 9-11.52

![Example 3-2. Pierre de la Rue, Missa cum jucunditate, Sanctus mm. 9-11.](image)

descending cadence, with neither the sixth-octave nor the third-unison counterpoint required by Dill. Similarly, the passage in Example 3-3 exhibits two instances of ascending melodic cadences devoid of their descending contrapuntal associates. The altus line in m. 7 features a D4 suspended beneath E4 and resolving to C4. The cadence on D4 is weakened by the immediate continuation of the altus. However, the principal issue here is the fact that the formulaic cadence in the altus is dispossessed of its counterpoint. The same situation—with reversed roles and a 7-6 G4-F4 suspension—occurs between the superius and altus in mm. 8-9.

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The three examples cited above make it clear that cadences in Renaissance sacred genres occur either as paradigmatic two-voice patterns or as non-paradigmatic single-voice cadences. In all cases, cadences arise from elements of pitch and rhythm, or rhythm alone (specifically, a period of rest subsequent to the attack of a pitch). Nonetheless, it is important to distinguish cadential accents as distinct from concomitant durational, contour or leap accents. All four elements are unique factors in the articulation of accented timepoints, because they all function as group-defining elements. However, while duration is a product of rhythm, and leap and contour are in the exclusive domain of pitch, cadential timepoints require elements of both. Finally,

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cadences have a unique segmentation function— that of ending a large group. This particular function, which may be augmented by the other accentual factors, further distinguishes the element of cadence from those other dimensions.

Under normal circumstances, then, a melodic cadence will be heard as a strongly accentuating factor. However, a common technique of Renaissance polyphony is the evaded cadence. Cadential evasion in this repertoire generally has two forms. Most commonly, a voice part will have a cadential formula and resolve to the goal pitch, but will not stop on that pitch. The paradigm causes the listener to perceive an imminent cadence, but the lack of durational emphasis or rest following the attack of the cadence pitch denies the listener's expectations. Example 3-4 illustrates this type of evaded cadence. The tenor and superius set up a cadence pattern to

Example 3-4. Evaded cadences in Ockeghem, Missa L'homme armé, Osanna, superius-tenor, mm. 97-101.
the octave G3-G4 in m. 98. The tenor, however, continues through the G4 with no rest or strong durational accent to support a sense of arrival or repose. Thus, the attack of G4 in the tenor does not have a strong ending function, and the cadence is said to be evaded.

Example 3-4 also illustrates the second type of evaded cadence. In this case, a paradigm is present, but the penultimate pitch resolves to a note other than the expected cadence pitch. This most often occurs with the syncopated rising-step cadence. In mm. 99-100 of Example 3-4, the superius clearly sets up a cadence to a unison D4 with the syncopated tenor. However, the lower voice steps down to B3 instead of resolving to D4. Because the paradigms set up the expectation for cadential arrival, but the goal pitch is either rhythmically weakened or denied, evaded cadences have weak accents.

Canon

Aside from the accents arising in concurrent-voice cadences, there are some other ways that our perception of accent in individual voices is influenced by the polyphonic texture. In imitative textures so typical of this repertoire, the accents we perceive in an imitating voice are preconditioned to a certain extent by the accents just heard in the voice being imitated.
Canon is the delayed repetition of the series of durations and diatonic intervals in one voice (the *dux*) by another voice (the *comes*), either at the same pitch level or transposed. Example 3-5 shows a typical canon at the fifth between superius *dux* and bassus *comes*. This study presumes that the *comes* is perceived in the same way as the *dux* regardless of context.

For instance, in Example 3-5, the superius steps down from E4 to a cadence on D4. In m. 3 the bassus C3 makes a

Example 3-5. Voice interaction in canon (from La Rue, *Missa L'homme armé* II, Kyrie, mm. 1-4).

![Example 3-5. Voice interaction in canon](image)

tenth against the superius E4, and closes to an octave D3 on the downbeat of m. 4. However, although the bassus provides a

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54 This cadence is weakened somewhat by the lack of durational accent following the attack of D4 and by the short rest following it. The notation for such cadences is discussed more formally in the following chapter.
contrapuntal reference allowing us to perceive a cadence in the superius, the bassus D3 can not be considered a cadential note within its own melodic context. To begin with, no cadential formula leads to the D3, and there are no subsequent rests to indicate the completion of a melodic segment. Furthermore, the first articulation of D3 ends a melisma on the syllable Ky-, while the second begins a shorter melisma on ri-. Thus there is no textual motivation to support the notion of a cadence at this point. By contrast, that motivation is clear in the superius, where D4 ends the word Kyrie. Finally, there is no reason to consider as cadential the corresponding event in the dux (beginning of m. 3). Therefore, any perception of the bassus D3 in m. 4 as cadential must necessarily come from a hearing of the superius-bassus voice pair, and, in terms of the melodic line in the bassus, is therefore misleading. It is partly the lack of cadential perception in the bassus melody that weakens the superius, not the relatively strong cadential note in the superius that draws the listener to hear a cadence in the bassus.

When a canon breaks off and the comes continues with free counterpoint, the primary rule no longer applies. Commonly, the comes simply ends in the middle of a phrase on a pitch.

55 The text underlay here is La Rue’s. If anything, the change of syllable on the second D3 in m. 4 gives a stronger accent to that attack than to the first. This observation further supports the notion that the attack of the first D3 in m. 4 is not strongly accented.
that was originally part of the dux. The accent on the attack of that pitch is augmented by the cadential accent. Example 3-6 illustrates this principle. The canon breaks at the

Example 3-6. Comes cadential accent on a previously unaccented dux event (from La Rue, Missa L'homme armé II, Christe, mm. 34-41).

bassus (comes) D3 in m. 39. Since the comes in this section follows the dux after a timespan of four breves, the corresponding canonic pitch in the superius (dux) is the A4 in m. 35. That pitch's attack is not strongly accented; however, cadential and durational accents clearly accrue to the attack of D3 as the final pitch event in the bassus, m. 39.
Metric Accent

Kramer defines meter as a "patterned succession of timepoints." For Berry, meter is inextricably tied to the concept of grouping. "Meter is that aspect of structure articulated as accent-delineated groupings within the attack (event) sequence, and the proportional interrelations of such groups at all levels." Lester points out that meter "refers to the organization of beats or pulses into patterns containing an accented (or strong) beat followed by one or more unaccented (or weak) beats." The Renaissance concept of mensuration--the division of longs, breves and semibreves into two or three equal timespans--is analogous to meter.

Metric accent may be preconditioned by the use of a meter signature, but grouping created by pitch-rhythm parameters can create its own meter. These two types of meter may or may not coincide. Thus, meter in its preconditioning form is a parameter which can produce accent, while meter created by perception ofaccent is the product of melodic events. A Renaissance melody may have regular attack points (e.g., every semibreve). These attacks create beats, which may be grouped into larger units created by regular accents at some longer

56 Kramer, Time of Music, 83.
57 Berry, Structural Functions, 318.
58 Lester, Rhythms of Tonal Music, 45.
timespan (e.g., the breve or long). This grouping of short beats within a longer pulse defines meter.\(^{59}\)

For Berry, meter as both producer and product are distinct facets of rhythm, which has various manifestations: "rhythm of pitch-line . . . a harmonic rhythm, a tonal rhythm, and a rhythm of each of the other elements and parameters of music events."\(^ {60}\) Of the relationship between event-successions and meter, Berry emphasizes "the role of shaping element-rhythms to project grouping in a broad sense analogous to those of meter and phraseology."\(^ {61}\) Berry identifies six factors allowing events to be grouped into units of structure.\(^ {62}\) Relevant to this study are cadences and the extramusical factor of text.\(^ {63}\) According to Berry, grouping of

\(^{59}\) See Lester, Rhythms of Tonal Music, 42-68 for a detailed discussion of created meter.

\(^{60}\) Berry, Structural Functions, 313. These other rhythm-inducing elements include pattern ("as manifest in varying durational combinations"), proportions ("comparative durational relations among units, or groups of events") and "relative qualities of events and event-successions--degrees (distances) of change, of accent." For further discussion of meter and grouping, see Wallace Berry, "Metric and Rhythmic Articulation in Music," Music Theory Spectrum VII (1985): 7-33.

\(^{61}\) Ibid., 316.

\(^{62}\) Berry, Structural Functions, 320-322.

\(^{63}\) Ibid., 321-322. The four remaining factors are: grouping of class-affiliated events, e.g. tonality; grouping of tendency-affiliated events--grouping by "profile of change in degrees of activity, in the line of element-rhythms"--i.e. relatively static degrees of change versus more active; grouping of pitch structure by association with linear function (auxiliary versus essential pitch events); "grouping expressed in accent-delineated meter"--i.e. perception of some
events into discrete segments depends on, in fact is defined by, relative strengths of accent. It is this partitioning that creates meter.

For Benjamin, grouping and meter determination are separate, but interdependent mental acts:

accent and grouping are the basic, if not neatly separable, modes of partitioning musical time, and . . . meter is a secondary construct, imposed on the interaction of group structure and accent, in response to certain practical and aesthetic needs."\(^{64}\)

Moreover, he suggests that

time-span formations determined by accents of a certain level . . . are not necessarily, and indeed not normally, metric levels; that there is typically little correspondence between the levels of an accentual hierarchy and those of a metrical hierarchy; and that the interaction of the two hierarchies is often rich and complex."\(^{65}\)

By the term accents here, Benjamin, like Berry, means accents other than pulses determined by preconditioned meter signatures. By meter, he means a general hierarchy of strong and weak beats. Furthermore, he suggests that partitioning by accent "may take priority over grouping when the two are in conflict and that the former may control the latter in such events as stronger than (i.e. more accented in the listener's perception than) surrounding "impulse projections," which therefore become absorptive. See pp. 320-322 for full discussion of these elements.


\(^{65}\) Ibid., 368.
cases," thus maintaining that "accentual partitioning is conceptually prior to grouping."\textsuperscript{66}

Meter in Renaissance music may arise from the accents in a single voice. Example 3-7 illustrates a case in which accents create a metric pulse contrasting with the notated


\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{example3-7.png}
\caption{Created meter (from Obrecht, \textit{Missa L'homme armé}, Gloria, superius mm. 13-15).}
\end{figure}

mensuration, which is \textit{tempus perfectus cum prolacione imperfecta}. The pitch-rhythm patterns of the D4-G3 descent suggest beats at the semibreve level, as the slurs show in the transcription. Successively lower pitch attacks from D4-C4-B3 set up stronger pulses grouping the semibreves by twos (square brackets). This grouping creates a temporary \textit{tempus imperfectus cum prolacione imperfecta} for these measures.

\textsuperscript{66} Ibid., 370-371.
One can understand how several concurrent melodies in this repertoire could create a perception of seamlessness with no metric patterning. Example 3-8 shows a sequence in all four voices at once. Each part's sequence creates its own metric pattern, which does not coincide with the other voices' patterns. In all four voices the pulse spans one breve; however, the pulse in each voice begins on a different part of the notated breve, as the square brackets underneath each voice show. Here, the non-alignment of pulses creates a seamless texture broken only by the end of the sequence and strong superius, tenor and bassus events in m. 17.

Example 3-8. Non-alignment of meters in individual voices (from Josquin, Missa L'homme armé sexti toni, Agnus Dei mm. 12-17).
Example 3-9 illustrates a case that looks similar, but has an important difference. The pulse in each of the three added voices spans one breve; surface rhythms suggest a duple beat (dotted semibreve) in all three parts. However, the


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The mensuration here is *tempus perfectus cum prolatione imperfecta*. The surface rhythms in each voice, however, suggest the opposite—*tempus imperfectus cum prolatione perfecta*. 

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67 The mensuration here is *tempus perfectus cum prolatione imperfecta*. The surface rhythms in each voice, however, suggest the opposite—*tempus imperfectus cum prolatione perfecta*. 

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superius pulse begins on the second half of the second semibreve in the mensuration, the altus on the second half of the first semibreve, the bassus on the beginning of the breve.\textsuperscript{68} Although the pulses generated by each voice do not align, leap accents in the altus and bassus coincide with the superius pulse. Thus, coincident accents in the parts strongly support the pulse presented by the superius. These timepoints are shown by the arrows in the transcription.

Another unique aspect of Renaissance polyphony is the idea that whether or not meter is evident in any one particular voice, accents in all the voices may combine to support a pulse in the polyphonic whole. Example 3-10 illustrates such a case. The superius, altus and bassus in this passage all clearly express the notated mensuration by different means. Four successive mensural downbeats are stressed by coincident strong accents in three or four voices. The attack of the superius pitch in m. 71 is durationally accented, while the altus has a leap and the bassus a cadence. The downbeat of m. 72 has a contour accent in the superius, a cadence-duration accent in the altus, and a durational accent in the bassus. In m. 73, the altus has a contour-duration accent which coincides with the tenor cadential accent and the

\textsuperscript{68} We show the grouping in the bassus here from the beginning of the breve for two reasons. First, the attack of F2 in m. 17 is accented by a fourth-leap from B♭2 in the preceding measure. Second, that same F2 begins a sequential pattern—an ascending fourth-leap—whose transposition by thirds parallels the sequences in the superius and altus in these measures.
bassus durational accent. These coincident timepoints clearly support a breve pulse that coincides with the beginning of the notated breve in these measures.

Example 3-10. Meter in the polyphonic whole (from Josquin, *Missa L'homme armé super voces musicales*, Kyrie, mm. 70-73).

Creation of meter is clearly a complex issue in this repertoire. This study considers Renaissance mensural concepts as analogous to modern definitions of meter. Both systems divide time abstractly and quantitatively into regularly recurrent units which provide a referential frame for pitch events. However, it will be analytically beneficial to omit the accent implied by the mensuration when considering
melodic accents, because although any notated meter helps
performers synchronize, it does not always correspond to the
created (i.e., actual) meter or indicate metric accent as
defined above. This will elucidate the exposition of melodic
accents, which otherwise might be obscured by the imposition
of the signature's beats.

However, one aspect of the analysis will be to see how
timepoints with coincident strong accents and accents in
individual melodies relate to the notated breve of a Mass
movement. Exploration of this feature will provide an extra
dimension to the analysis by revealing timespan patterning as
it relates to the notated mensuration. Also, agreeing with
Berry and Benjamin that meter is, in part, the result of
accentual process in the music suggests that the melodic
analysis may come first, with consideration of metric aspects
second. The notational system developed for this study
provides a clear graphic representation of different accentual
parameters, and therefore also of timespan patterns created by
individual melodies, and patterns resulting from the
interaction of accents in the full texture.

Subsequent discussions concerning the relationship of
accent to the notated mensuration employ the terms mensural
pulse and mensural division. The former term refers to the
timepoint at which a notated breve in any mensuration begins,
that is, the onset of the tempus level of the mensuration.
Thus, the beginning of each measure of a transcription of
Renaissance music marks the mensural pulse. *Mensural division* refers to the partitioning of the mensural pulse into two or three equal units (i.e., perfect or imperfect *tempus*).

In summary, this study does not analyze metric patterning *per se* in the polyphonic texture. Instead, the focus is on melodic accents and the interaction of those accents in the full texture. The study does not consider the role of meter as a generator of accent; neither is meter reduced to a by-product of certain types of accent. However, it will sometimes be beneficial to consider the relationship of accent patterns to pulses implied by the notated mensuration.
CHAPTER 4
NOTATION AND ANALYTIC STRATEGY

The definitions of accent provided in the preceding chapter form the basis of a methodology for analyzing accents in individual voices of Renaissance polyphonic works. The analysis proposes to highlight the accented timepoints of each voice, and capture the essential features of accent interaction among the voices.

For instance, referring back to Example 1-1, the listener may be aware of several prominent components of Josquin's "Agnus Dei." The opening features a leap of a perfect fourth, which permeates the imitative texture. Arch contours occur in all the lines over short time spans (e.g., superius mm. 2-7), as well as over longer time spans (such as the entire bass line). The motivic-imitative section beginning after m. 11, the occurrence of durationally- and cadentially-accented timepoints, and the distinct final cadence are other strong features of the movement. The particular placement of leaps, contour climaxes, long durations and cadences makes some timepoints more emphasized than others.
In order to analyze the features of works like Example 1-1, this chapter applies the general definitions of accent to melodies from the Renaissance sacred polyphonic repertory, and determines which factors produce strong accents in those melodies. Distinguishing strong accents allows the analyst to identify the most accented timepoints in a piece. Furthermore, this chapter posits a notational symbology to show clearly the varying types and strengths of different accents. It also discusses cadential accent in polyphonic works, a topic not closely studied in the psychological literature but relevant to this study. The analysis shows how the different accents interact and combine to create most-accented timepoints, which punctuate the pieces and contribute to our perception of form and pitch-class consistency.

Since this study develops an analytic strategy based on accents generated primarily by duration, leap, contour and cadence, distinctions among members of a mode—essential to hierarchical theories of pitch structure—are not necessary. Unlike some theories that regard scale degrees 1 and 5 as intrinsically superior, the analytic method developed here does not take into account accent arising purely from pitch-class structure. Analysis will show that such pitch classes are often emphasized by accents. However, they are not regarded as accent-producing.

Similarly, membership in any particular sonority is not accent-producing. Thus, an accented timepoint in a voice
depends only on features of that voice, not on how the pitch at the timepoint relates to concurrent sustained or attacked pitches. In this sense, the analysis of each voice does not rely on its intervallic or harmonic context within the polyphonic whole. The study proposes this approach not because of a belief that context is inconsequential, but because different considerations necessarily arise from a contextual analytic process. That process is generally oriented toward a vertical (harmonic) approach, a strategy that could detract from the linear (melodic) orientation proposed here. However, coincident strong accents may point to some normative feature(s) characteristic of harmonic usage in the sacred cantus firmus style.

The chapter begins with a discussion of factors that determine strong and weak accents in a melody. It continues with an exposition of the notational symbology used to represent the different types and strengths of accent. Next come the rules for applying the notation to each parameter listed in the previous chapter. This section follows the same ordering as that chapter, and includes discussion of combined accents and of cadential accent in polyphonic textures. After a consideration of the roles and notation of embellishing

1 The only exceptions to this approach occur with paradigmatic two-voice cadence formulae. There are times when one helps define the other, including occasions where a clearly-articulated superius-tenor pair pulls the bassus into the listener’s perception. The rules governing the determination of such events are found in the discussion of analytic notation.
events, the chapter ends with general observations on analysis of a long-note cantus prius factus.

Relative Strengths of Accent

Defining which factors produce the most accent is necessary for determining relative strengths of accent, and consequently for identifying the most accented timepoints in a melody. Consider, for instance, durational and contour accents in Example 4-1. The two longest durations begin with

Example 4-1. Excerpt from Josquin, Missa L'homme armé super voces musicales, Benedictus, bassus II, mm. 1-10.

the attacks of the first and last pitches in the excerpt. This suggests that the initial and final pitch attacks mark the most-durationally-accented timepoints for this phrase. The final attack, since it initiates the longer duration, is more accented than the first. By contrast, consider the durations of A2 in m. 5, D3 in mm. 5-6, and C4 in m. 7. A2 and D3 occur immediately after the long-note passage in mm. 1-4; in that context, their durations represent a rhythmic
acceleration, and are therefore relatively unaccented
durationally. The same \( \frac{3}{4} \) duration beginning at the onset of C4, on the other hand, occurs after a passage of quarters and halves; in this context, the same duration creates an agogic accent. Thus, a single duration, depending on its immediate context in a single voice, produces different strengths of accent.

Every change of melodic direction also creates accent. The attacks of A2 (m. 5) and C4 (m. 7) are contour-accented as the lowest and highest timepoints respectively in the passage. Both have the same duration, but the latter seems more strongly accented because it is also accented by leap. Similarly, A3 is attacked three times with contour accents in mm. 3, 8 and 9. The occurrence in m. 3 is likely to be heard as a more strongly accented contour event because it ends an ascent from D3, whereas the latter two attacks occur as directional changes spanning only the interval of a second (G3-A3). However, strong durational accent also accrues to the final A3. The combined accents on the attack of that pitch make it more strongly accented overall than in m. 3.

Clearly, there are many different strengths of accent in this passage, and timepoints with identical pitch and rhythm are perceived differently depending on local context. Analyzing local strong and weak accents would provide a small-scale picture out of which would emerge a larger-scale overview of strong accents in a piece. However, this study is
primarily concerned with a piece's most-accented timepoints. Therefore, it forms rules to simplify the process for identifying strong accents in a work. The study bases these rules on the acknowledgment of two basic categories of accent—strong and weak. This assumption is advocated, for example, by Berry.²

Rather than identifying strong and weak accents based on immediate (note-to-note) contexts within a single voice part, this study defines a broader context to generate a picture of the most-accented timepoints in a piece of music. For instance, the contour accents marking the onsets of A3 (m. 3) and C4 (m. 7) in Example 4-1 are widely separated in time; both may be perceived as relatively strong. By contrast, the directional changes around G3-A3 in mm. 8-9 occur soon after contour accents on the attacks of G3 and C4 in m. 7, and are therefore relatively weak. This study specifies a timespan boundary for contour, cadence and durational accent in order to help determine the most-accented timepoints in a piece. This boundary is based on Renaissance mensural theory.

Timespan Boundary

Before presenting the notation and rules for analysis, the study must identify the timespan boundary within which the

² Wallace Berry, *Structural Functions in Music* (Englewood Cliffs: Prentice-Hall, 1976), 345. Recall the discussion on pp. 31 ff. of this study.
rules will function. The boundary determines a common referential timespan within which strong contour accents may occur. In this way, only the stronger contour accents will emerge in the analysis. Durational accent is obviously a function of elapsed time. Since this study identifies timepoints with stronger accents, it requires a referential timespan to determine relative degrees of durational accent. Similarly, perception of cadences depends at least in part on the duration of the cadential pitch, or on the amount of rest following that pitch. Again a referential timespan is needed to decide whether conditions are met for strong cadence accents. A timespan boundary provides consistency by requiring all accents—excluding leaps—to be defined by a common frame of reference. 3 That frame of reference is the breve.

Contemporaneous theorists considered the breve the basic unit of measured time in music around 1500, that is, as a referential duration to which other note values were related. Ramis, for example, asserts in 1482 that "we may put tempus [represented by the breve] at the top of the middle finger as a central focal point . . ." 4 He derives all other note values from the breve, including the minim, semiminim, cursea,

3 Leaps are excluded here because accent created by leap is a function of pitch only, not rhythm.  

minarea and fusea.\textsuperscript{5} In 1496, Gaffurius treats the breve as the basic unit of time measurement.\textsuperscript{6} "The breve note, moreover, since it originally consisted of one unit of time, and the long . . . are called the most basic elements in the time scale of mensurable sound."\textsuperscript{7} Zarlino in 1558 concurs with his predecessors, pointing out that ancient musicians and poets . . . classed some notes as tempus brevis and others as tempus longum, with the long equal to two breves. On the breves they placed the short syllables or sounds, that is, those of minor quantity; and on the longs those of major quantity. This is only right, since in numbers unity precedes duality, which contains two units. So the breve takes precedence over the long.\textsuperscript{8}

Because the breve is clearly the fundamental unit of time measurement in Renaissance music, this study makes that duration the source for determining the timespan boundaries that define strong contour, durational and cadential accents.

Two peculiarities of modern transcriptions must be pointed out here. First, breves in Renaissance scores are sometimes transcribed as \(\text{=}\) or \(\text{=}\); other editors reduce these values to \(\text{o}\) and \(\text{o}\) respectively. This confusing affair is clarified by the use, in modern editions, of bar lines. For

\textsuperscript{5} Ibid. Ramis provides the alternative terminologies of cursuta and crocea as names for the cursea.

\textsuperscript{6} Franchinus Gaffurius, Practica musicae, translated and edited by Irwin Young (Madison: University of Wisconsin Press, 1969), 74.

\textsuperscript{7} Ibid., 75.

\textsuperscript{8} Gioseffo Zarlino, Liber de arte contrapuncti, translated by Guy A. Marco and Claude V. Palisca (New Haven: Yale University Press, 1968), 118.
the purposes of this study, bar lines delineate breve timespans. Second, transcriptions of works in imperfect mensuration result in $\text{H}$ or $\text{O}$ to represent the breve, whereas for pieces in perfect mensuration the breve is represented by $\text{H}$ or $\text{O'}$. The study confronts this latter problem in the discussion of rules for specific accent types.

Let us now define generally how the breve duration acts as a timespan boundary in this study. A breve duration lasts from the onset of a pitch or rest until the point where the succeeding breve would commence (see Example 4-2a). If the pitch's duration corresponds to one breve exactly, then the breve lasts from the attack of that pitch until the attack of the next pitch (see Example 4-2b). If a rest succeeds such a pitch, a breve timespan lasts until the onset of the silence (see Example 4-2c). Where a pitch is held for less than the

Example 4-2a. Breve timespan for rhythmic values extending beyond a breve.

Example 4-2b. Breve timespan for rhythmic values equal to one breve.
Example 4-2c. Breve timespan for rhythmic values equal to one breve, but followed by rest.

\[ \begin{align*}
\text{Example 4-3a. Breve timespan where rhythmic values are less than one breve.} \\
\text{Example 4-3b. Breve timespan where rhythmic values are less than one breve, and the breve boundary is marked by rest.}
\end{align*} \]

The analysis in Example 4-4 provides us with a means for refining our definition of timespan boundary. If a voice part creates a pulse with a mensural division other than that
indicated by the composer, then the new pulse becomes the source of the timespan boundary. This is because creation of a new meter temporarily also creates a new breve. The notated mensuration in Example 4-4a is tempus imperfectus cum prolatione imperfecta; each bar represents a breve divided into two semibreves. Normally, the timespan boundary in this mensuration would be the breve. However, as Example 4-4b shows, beginning with the pick-up to m. 26, the half-note

Example 4-4a. Obrecht, Missa L'homme armé Kyrie, bassus, mm. 25-29.

\[\text{Example 4-4b. Possible metric interpretation of the excerpt from Example 4-4a.}\]

\[\text{Example 4-4b. Possible metric interpretation of the excerpt from Example 4-4a.}\]

durations, changes of direction and leaps suggest that the passage could be notated as a "cross rhythm" with the penultimate measure returning to the original mensuration. In this interpretation, the A2 half-note plus the following rest equal the metric unit established by the previous three measures. Consequently, the timespan boundary for this phrase
becomes a dotted half-note in the transcription. In mensural terms, the unit for prolation switches from the semibreve to the dotted semibreve.

Notational Symbology

Before defining the rules for analyzing strong and weak accents in Renaissance polyphony, the study must submit a notational symbology that reflects the bilevel accent hierarchy. The distinction between strongly and weakly accented timepoints is represented in the following analyses by open and shaded noteheads respectively. Figures 4-1a and 4-1b illustrate the notation employed for each type of accent. The four basic accent types—duration, beginning, leap/contour and cadence—are represented by four different noteheads. Stems are added to noteheads at timepoints with combined accents. Rules for applying the symbols are given in the remainder of this chapter, so that every pitch attack is represented by either a primary (strong) or a secondary (weak) accent. Horizontal and vertical placement of noteheads in the analysis corresponds to pitch-level and timepoint occurrence respectively in the piece.
Figure 4-la. Notation for weak- and unaccented pitch attacks.

Unaccented attack: •
Third-leap: ♦
Evaded cadence: ■
Anacrusis: △

Figure 4-lb. Notation for strong accents.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Symbol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duration</td>
<td>●</td>
</tr>
<tr>
<td>Beginning</td>
<td>△</td>
</tr>
<tr>
<td>Leap/Contour</td>
<td>♦ / ♣</td>
</tr>
<tr>
<td>Cadence</td>
<td>□</td>
</tr>
<tr>
<td>Duration + Leap/Contour</td>
<td>♦ / ♣</td>
</tr>
<tr>
<td>Duration + Cadence</td>
<td>♦</td>
</tr>
<tr>
<td>Cadence + Leap/Contour</td>
<td>♣ / ♣</td>
</tr>
<tr>
<td>Cadence + Leap/Contour + Duration</td>
<td>♣ / ♣</td>
</tr>
</tbody>
</table>

Rules for Defining Accents

Having presented the notational symbols and defined the timespan boundaries within which certain accents must function, this study will now present the rules for identifying and notating accents specific to Renaissance polyphonic works. The precepts proposed below reflect the bilevel accent hierarchy posited earlier in this discussion.
Each type of accent is discussed separately and illustrated by examples from the repertoire.

**Durational Accent**

Durational accent accrues to the attack of any pitch held for more than one mensural division. In perfect mensuration (division into 3), the duration must be equal to at least half the breve (i.e., a dotted half note value in $\frac{1}{2}$ transcriptions, a dotted whole note value in $\frac{3}{4}$). Example 4-5 illustrates durational accent in perfect mensuration. The durations of C₄ in m. 101 and E₄ in m. 102 are both greater than one-half the mensural pulse ($\circ$). The attacks of those pitches are therefore represented by round, open noteheads on the lower staff. These timepoints are more accented than those represented by the unstemmed, solid noteheads corresponding to pitches of shorter duration. (The semibreve representing the attack of G₃ is parenthesized in this example because that symbol has not yet been defined.)
For pieces in imperfect mensuration, durational accent accrues to the attacks of pitches whose duration is greater than half the breve. That is, the duration must be at least a dotted half in $\frac{3}{2}$ transcriptions, a dotted whole in $\frac{4}{2}$ transcriptions. In Example 4-6, the D4 in mm. 164-165 spans a duration equal to O. Since this instance satisfies the condition for durational accent in imperfect mensuration, the attack of D4 is represented by the open, round notehead.

Example 4-6. Durational accent in imperfect mensuration (from Josquin, Missa Pange Lingua, Credo, altus, mm. 179-180).

Again, the pitches with shorter durations are shown as shaded round noteheads on the lower staff.

Related to duration is the idea of pitches repeated over a timespan. A repeated note may be heard as an accented event, the accent accruing to the attack of the first instance
of that pitch.\(^9\) Strong repeated-pitch accents must satisfy the same timespan requirements as those for durational accent. That is, the attack of the first in a series of repeated pitches is strongly accented if, from the initial attack of the pitch until the attack of a new pitch or the onset of a rest longer than a breath rest, the repeated pitch's rhythmic values cover a timespan equal to three or more smaller divisions of the breve in either perfect or imperfect mensuration. For example, in perfect mode, minor prolation, the breve divides into three semibreves, each of which divides into two \textit{minima}. In perfect mode, major prolation the three semibreves each divide into three \textit{minima}. Imperfect mode, minor prolation has two semibreves, each dividing into two \textit{minima}, while the same mode with major prolation sees the two semibreves partitioned into 3 \textit{minima} each. For each of the minor prolations (perfect or imperfect mode), the rules require three \textit{minima}; for the major prolations, they require four \textit{minima} plus one \textit{semiminima}. Thus, although one may have different \textit{modus}, the accumulative note values required by durational accent remain the same at the level of prolation.

Repeated-pitch passages satisfying the above criteria are represented by the same symbol as durational accents (\(\circ\)).

\(^9\) Recall the discussion of Berry's views on reiterated pitches on p. 32 of the preceding chapter. Also, this definition of repeated pitches does not include the \textit{anticipation}. Treatment of this and other embellishing elements is treated later in this chapter.
The reiterated D5 in Example 4-7 clearly spans more than one-half the mensural pulse (in tempus perfectus). The © symbol on the lower staff aligns with the attack of the first occurrence of D5. Similarly, for the tempus imperfectus passage in Example 4-8, the combined durations of the repeated G5 sum to greater than half the mensural pulse. The round, open notehead again aligns with the onset of the first in the series of repeated pitches.
Breath rests do not affect repeated-pitch accents; accent still accrues to the attack of the first occurrence of the pitch. The duration of a breath rest is not included in the counting of total durational values for the repeated pitch. In Example 4-9, D5 is repeated in m. 22, but with a short rest between the first and second attacks of the pitch. The symbol BR indicates the function of that silence as a breath rest. Since the combined durational values of the repeated pitches preceding and following the rest total greater than one-half the imperfect mensural pulse, the passage satisfies the conditions for repeated-pitch accent. The round, open notehead on the lower staff marks the timepoint at which the accent initially occurs.

Example 4-9. Repeated-pitch event with breath rest (from La Rue, Missa L'homme armé II Gloria, superius, m. 22).

Leap Accent

Primary accent accrues to a timepoint preceded by an upward or downward leap of a perfect fourth or greater.
Timepoints accented by large leaps are shown with the symbol ◊. Example 4-10 illustrates a passage with several large leaps—a perfect fourth from C₄-G₃ (m. 39), a perfect fifth from G₃-C₃ (m. 40), and a perfect fourth from C₃-F₄ (mm. 40-41). The pitches attacked by leap are represented on the

Example 4-10. Notation for large leaps (from Willaert, Missa Quaeramus cum pastoribus, Gloria, bassus, mm. 39-41).

lower staff by the ◊ symbol. The remaining, unaccented pitches are shown with round, shaded noteheads.

In the case of ascending or descending major or minor thirds, the attack of the second of two pitches in the third-leap is represented by the symbol ◆ in the analysis. Example 4-11 illustrates two instances of third-leaps—B♭₃-G₃ in m. 51, A₃-F₃ in m. 52. The two ◆ symbols on the lower staff represent the relatively less accented attacks of G₃ and F₃.

In a series of leaps in the same direction, the attack of the last note in the series always has a strong leap accent, though it is often only a third from the middle note. This is because two leaps will always sum to an interval greater than
Example 4-11. Third-leaps (from Josquin, motet Ave Maria . . . Virgo serena, bassus mm. 51-52).

Example 4-12. Ascending third-leaps (Ockeghem, Missa L'homme armé, Agnus II, altus, mm. 42-43).

a perfect fourth. Therefore, a timepoint has a primary leap accent (represented by ◊) if it is preceded by two or more successive, unidirectional leaps, and the total distance covered by those leaps is greater than or equal to a diminished fifth. If the first of the two leaps is a third-leap, the attack of that pitch is depicted by ◊; if it is a perfect fourth or greater, the ◊ symbol is used. Example 4-12 provides an instance of ascending double leap in Ockeghem's Missa L'homme armé. The A3 at the end of m. 42 is unaccented,
and is represented therefore by a shaded, round notehead on the lower staff. The C₄ at the beginning of m. 43 is a third above A₃, so its attack is shown with a shaded, unstemmed semibreve. E₄ ends the double leap, sitting a perfect fifth above A₃; consequently, that onset of that final pitch in the series is represented by the ♩ symbol.

Example 4-13 contains a descending double leap interrupted by a breath rest. As was the case with repeated pitches, breath rests do not affect the perception of leaps.

Example 4-13. Descending third-leaps with breath rest (from Josquin, Missa L'homme armé super voces musicales, Kyrie I, superius m. 13).

The B₄ that begins this double leap is unaccented (• on the lower staff). The subsequent attack on G₄ a major third below B₄ is represented by the symbol ♩. Continuing through the breath rest (BR), the E₄ ends the double leap. The attack of E₄ is represented by the open, unstemmed semibreve because that final pitch is a perfect fifth below the initial B₄.
Contour Accent

Contour accent accrues to the attack of a pitch that is the highest or lowest within its timespan boundary. That is, an upper contour accent (symbolized C) occurs at the attack of a pitch \( p \) if \( p \) is the highest in a series of pitches, if there is no equal or higher pitch within one immediately-preceding breve timespan, no higher pitch within one immediately-following breve timespan, and if the attack of \( p \) is not stressed by a leap accent.\(^\text{10}\) In Example 4-14, a change of direction occurs after the attack of E4 in m. 11. The square

Example 4-14. Upper contour accent (from Dufay, motet *Moribus et generæ Christi conjuncte* Johannes/Virgo virga virens, vires virtutibus affer, superius, mm. 10-12).

\(^{10}\) The study of contour can be a useful analytic approach to this music. Studies carried out on this topic, include Peter Schubert, "Mode and Counterpoint," in *Music Theory and the Exploration of the Past*, edited by Christopher Hatch and David W. Bernstein (Chicago: The University of Chicago Press, 1993), 103-113 and Robert D. Morris, "New Directions in the Theory and Analysis of Melodic Contour," *Music Theory Spectrum* XV/2 (1993): 205-228. However, these approaches are not concerned with the accentual nature of contour, and so are not directly relevant to this study.
brackets measure a one-breve timespan before and after the onset of E4. Since no equal or higher pitch precedes E4, and no higher pitch follows it within the timespan boundary, the attack of E4 creates a strong contour accent.

Similarly, a lower contour accent (symbolized C) occurs at the attack of a pitch p if p is the lowest in a series of pitches, if there is no equal or lower pitch within one immediately-preceding breve timespan, no lower pitch within one immediately-following breve timespan, and if the attack of p is not stressed by a leap accent. Example 4-15 shows the timespan boundaries (—) surrounding the attack of E4.

Example 4-15. Lower contour accent (from Palestrina, motet *Paries quidem filium*, superius mm. 69-71).

Since that pitch attack satisfies the requirements for lower contour accent, it is symbolized by C. The square brackets in

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It is possible to have both upper and lower contour accents embellished by lower neighbour notes. Rules for determining these auxiliary pitches and their notation are discussed later in this chapter.
this example also show why the attack of F4 at the beginning of the second half note in m. 69 does not receive a contour accent—the E4 in m. 70 enters within one following breve. Furthermore, the example shows that the attack of B♭4 at the end of m. 69 is contour-accented despite its short duration.

The definition provided above states that a timepoint is not contour-accented if the pitch initiated at that timepoint has appeared within the preceding timespan boundary. If this situation occurs, then p is not the lowest or highest in a series of pitches. For instance, in Example 4-16 the attack of G3 in m. 138 receives a lower contour accent. In m. 139,

Example 4-16. Denial of contour-accented timepoint (from Ockeghem, Missa L'homme armé, Sanctus, altus, mm. 137-141).

A3 is lowest, but its attack does not receive a lower contour accent because the G3 a breve earlier is lower. The second attack of A3 (m. 140) is articulated only one breve after the A3 in m. 139. However, because the A3 in m. 140 is not lower
than all the pitches within one preceding breve, its attack
does not receive a contour accent.

Accents in Repetitions and Sequences

Renaissance sacred polyphony is not merely a random
succession of accents produced by various durations, contour
changes and leaps. Imitation, repetition, sequence and canon
provided 15th- and 16th-century composers with techniques for
reiterating or transposing series of pitches, intervals and
durations. As noted in Chapter III, the repetition--exact,
sequential, or canonic--of a series of these elements
duplicates the accent pattern of that series.

Repeated patterns are indicated by square brackets above
the melody in the analysis. If the pattern of pitches and
durations is repeated exactly, each corresponding timepoint in
each repetition of the pattern has the same accent. The
original pattern is labelled ORIG and the repetitions REP.
Example 4-17 contains an instance of direct repetition. In
this example, the pitch pattern G4-F4-E4-D4-E4-D4 in mm. 74-75
is repeated with the same pitches and durations in mm. 75-76.
Consequently, the analysis of the repetition uses the same
symbols to represent the pitch attacks.

Some Renaissance theorists advocated the use of repeated
melodic fragments under certain circumstances. One such
theorist was Giovanni Maria Artusi, who also provided a
Example 4-17. Notation for direct repetition of a motivic segment (from Josquin, Missa L'homme armé super voces musicales, Kyrie II, superius, mm. 74-76).

flowchart of which elements to vary in a repeated fragment. According to Artusi, one element subject to change when pitches are repeated is rhythm. This option creates an effect of varied repetition; that is, the pitches are repeated but the rhythm is varied.

In cases of varied repetition, the analysis employs the label ORIG for the original interval-rhythm model, and V-REP for the repeated pitches with altered rhythm. Example 4-18 illustrates an instance of varied repetition. The leap from D4 to G3 in m. 74 imparts a strong accent to the attack of G3. That timepoint initiates a G3-D4 stepwise fifth-ascent which is presented three times with different rhythmic patterns. The two repetitions preserve the strong and weak accent structure of the original, regardless of changes in duration.

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12 Giovanni Maria Artusi, L'arte del contraponto (Hildesheim: Georg Olms, 1969), 58.
Example 4-18. Notation for varied repetition of a melodic fragment (from Josquin, Missa L'homme armé super voces musicales, Kyrie II, altus, mm. 74-76).

Although D4 is the highest note in the passage and occurs four times, its onsets do not mark contour accents because it always occurs one breve or less after its preceding attack.

Like repeated motives, sequences are highlighted by square brackets above each statement of the sequential pattern. Again, the original interval-rhythm pattern is shown with the label ORIG; the designation SEQ is then placed above the sequential repetitions of the pattern. The graphic symbols + and - are added to SEQ to denote rising and falling sequences respectively. Numeric values denote the diatonic interval of the repetition in relation to the immediately-preceding statement (i.e., SEQ+n or SEQ-n). Example 4-19 shows the notation for a sequential pattern.

As with direct repetition, each sequential transposition comprises the same accent structure as the original statement. The principle underlying sequence is the same as that for repetition--the composer repeats an intervallic and rhythmic

The pattern, though transposed instead of at the original pitch level. Each repetition or transposition may be considered a discrete musical segment. Since the individual segments are perceived separately, they may legitimately be analyzed as distinct units.

Sequences in Renaissance music commonly end in one of two ways. They may stop on the last note of the last statement of the sequence. Normally, this kind of ending will fulfill the requirements for a cadence. In other cases, the sequential pattern ends or breaks off, but the melody continues until a cadence is reached. To indicate situations where a sequence or repetition begins but breaks off before it is complete, the square bracket becomes broken-lined and the other rules continue to apply. If a sequence or repetition simply ends and the voice part cadences at a timepoint occurring as part of the pattern, the status of that final note within the original pattern is supplemented by cadential accent. The
attack of the final pitch in a repetition or sequence assumes a cadential function only if it fulfils the requirements for cadences defined below.

Besides adding cadential accent to a pitch attack in a sequence, the study allows for alterations of accent if, in the course of transposition, a sequence creates a situation in which the normal rules apply. Example 4-20 shows an extended descending sequence. The transposed melodic pattern is a

Example 4-20. Sequence in which the accent structure of the original is altered (from Josquin, *Missa L'homme armé sexti toni* Agnus Dei, bassus, mm. 12-17).

descending third-leap followed by two rising steps. Successive statements of the pattern are transposed down a second. In the final instance (m. 16), the third-leap occurs from D3-Bb2. Despite the sequence, this Bb2 satisfies the conditions for a strong lower contour accent, and is
represented by the symbol C. Thus, although an accent originally imparted to a particular timepoint in a sequence can not be repealed, it may be supplemented by another type of accent if the conditions for that accent are fulfilled.

Cadential Accent

The attacks of cadential pitches in each voice are significant because they represent the completions of broad musical gestures, often coinciding with the ends of text phrases. For the purposes of analysis, this study distinguishes two types of melodic cadences in Renaissance polyphonic works. The first type is created by silence filling the timespan boundary after a pitch. That is, any pitch followed by a rest greater than or equal to one breve in length is deemed a cadence note, even if the pitch is preceded by a leap or an ascending whole step. This definition, although simplistic, is useful for identifying all voice exits in a polyphonic texture. Accent accrues to the attack of the cadential pitch. If the onset of that pitch is not also durationally or otherwise accented, the cadence is represented by the symbol ◊. Example 4-21 illustrates this type of cadence. G3 in m. 17 is followed by more than one breve rest. Cadential accent thus accrues to the attack of that pitch. Since there is no concurrent durational, contour or leap
accent at that timepoint, the symbol □ represents the attack of G3.

Example 4-21. Cadence in which pitch plus rest are greater than or equal to a breve (from Josquin, motet O virgo Virginum, altus II, mm. 16-18).

The second type of melodic cadence in the Renaissance style is created by paradigmatic melodic cadential formulas. The most typical closing formula in music of the 15th and 16th centuries involves the interaction of two voice parts. One of the voices has a dissonant suspension which resolves down by step to a consonance, then steps back up to the cadence timepoint. The other voice's prototypical melodic cadential figure is a descending second. In the latter case, it is not the downward step itself that creates the cadence so much as the contextual pairing of that step with the suspension figure described above. Following Meier's terminology, this study

13 Recall Example 3-1, "Paradigmatic two-voice cadence patterns in Renaissance music" on p. 45 of the preceding chapter.
adopts the terms cantizans and tenorizans to identify the upward-resolving (often found in the cantus, hence cantizans) and downward-resolving (commonly used in the tenor, hence tenorizans) paradigms respectively.\textsuperscript{14} Although a hallmark of the style, the suspension is not a requirement of a cantizans cadence and therefore does not always appear.\textsuperscript{15} However, the presence of syncopation signals the beginning of a possible cantizans cadence, which may occur without a tenorizans. In the following definitions, \textit{cp} = cadence pitch; \textit{cz} = cantizans cadential formula; \textit{tz} = tenorizans cadential formula.

The penultimate note of the cantizans forms a (usually major) sixth or (minor) third or tenth with the tenorizans. The sixth expands to an octave, or the third contracts to a unison, and the cadence pitches typically coincide with a strong beat.\textsuperscript{16} The normal rules for cadential accent also apply to paradigmatic cadences. That is, if the conditions for rest follow a cadence attack in a \textit{cz} or \textit{tz}, and the attack of \textit{cp} is not also accented by contour or duration, then $\cdot$

\textsuperscript{14} Bernhard Meier, \textit{The Modes of Classical Vocal Polyphony}, translated by Ellen E. Beebe (New York: Broude Brothers, 1988), 91. This is the principal exception to the non-contextual approach proffered by this study. In a cantus firmus framework composition, one must assume that the composer normally planned cadences in two voices. Thus, any clearly-articulated cantizans in one voice automatically makes possible the conditions for a tenorizans in another voice.

\textsuperscript{15} See, for example, Charles W. Dill, "Non-Cadential Articulation of Structure in Some Motets of Josquin and Mouton," \textit{Current Musicology} XXXIII (1982), 39.

\textsuperscript{16} The tenth will, of course, contract to an octave.
symbolizes the cadential accent (recall Example 4-21, which is also a tz cadential paradigm).

For non-paradigmatic cadences, the amount of rest after a pitch ceases to sound defines the cadential function, and consequently the cadential timepoint, for that pitch. For cadences with combined cz/tz paradigms, on the other hand, the listener is prepared for the arrival of cp. In these cadences, it is not so much the amount of rest following cp that defines the cadence attack as the pre-cadential rhythmic-intervallic patterns. This fact allows us to refine the definition of a strong cadence attack in a cz/tz pair using the timespan boundary, so that the rules do not rely solely on the amount of rest following the termination of cp. Rather, since the attack of the pitch is heard as cadential, the rule now applies to the onset of the pitch. Thus, if the attack of cp in a cz/tz paradigm is followed by a combination of cp and rest equal to or greater than a breve, and if the attack of cp is not otherwise accented, then the symbol • represents the cadence attack. Example 4-22 shows a cz/tz pair in the superius and tenor. G4 in the superius (m. 116) is suspended above A3 in the tenor, and resolves to F4. This creates the interval of a sixth between the two voices. The sixth expands to an octave (G3-G4) in m. 117. G4 terminating the cz lasts for one-third of a breve in the triple mensuration, but is followed by a rest equal to two-thirds of a breve. The total duration of cadence pitch plus subsequent rest is equal to a
breve, so the attack of G₄ in the superius is shown with the symbol, □.

Example 4-22. Cadence notation for cz/tz pair (from Ockeghem, Missa L'homme armé, Credo, superius/tenor mm. 116-118).

Renaissance composers active between 1470 and 1500 occasionally used the double-leading-tone cadence. This is essentially a double-suspension figure above the tenorizans. One voice has the typical 7-6 cantizans figure and steps up to create an octave with the tenorizans voice. A third voice, also above the tenorizans, moves in parallel fourths below the cantizans voice. This creates a 4-3 suspension in that voice; the step up to the cadence tone divides the outer-voice octave at the fifth. Example 4-23 illustrates an instance of this
type of cadence. Here, superius and bassus have the cantizans and tenorizans respectively. Accompanying the 7-6 suspension

Example 4-23. Double-leading tone accents (from Obrecht, Missa L'homme armé, Kyrie, mm. 49-50).

in the superius is a 4-3 suspension in the altus. Altus and superius resolve up in m. 50, where cadential (and durational) accent accrue to the attack of those pitches. Since symbols for combined accents have yet to be discussed, only the cadential symbol, •, is shown here.

Example 4-24 illustrates the analysis of an evaded cadence. A cadence is evaded if the attack of cp in a cz or tz is not accented by contour or duration, if the condition for the minimum required amount of rest following cp is not filled, and if cp plus subsequent rest total less than a breve. Timepoints satisfying these criteria are represented by the symbol |. The superius in Example 4-24 has the cantizans paradigm (m. 10), but the attack of cp is not accented by duration or contour. The cp is not followed by
any rest, and the duration of \( cp \) does not equal more than half a breve. Therefore, the cadence is evaded, and the attack of \( cp \) is represented by \( \downarrow \) on the lower staff.

It is possible in the Renaissance style for a voice to set up a cadential paradigm, then deny the arrival of \( cp \). In this case, the cadence is evaded. However, if the duration of this or any other evaded cadence pitch subsequently satisfies the conditions for strong accent, then the attack of the pitch marks the timepoint of a durationally-accented evaded cadence. This would seem to suggest the possibility for a notational paradox, since an evaded cadence attack is relatively weak, while a long duration creates a strong accent. Consequently, if a pitch at an evaded cadence also satisfies conditions for durational accent, the analysis represents the attack of the
pitch with the symbol $\diamond$. Example 4-25 illustrates this case. The superius and altus set up a cadential paradigm in


m. 13. The superius clearly cadences on A4 in m. 14, but the altus continues through its cadence pitch (A3) to F3. The long duration on the altus A3 satisfies the requirement for strong durational accent, so the analysis represents the attack of A3 in m. 14 with the $\diamond$ symbol.

Beginning-accent

A beginning-accent in polyphonic music is a textural event, as discussed in the previous chapter. Recalling that earlier discussion, primary accent accrues to the first pitch attack in any voice part in a movement. If that attack is not otherwise accented, the symbol $\Delta$ is used to represent it.
Beginning-accent are also identified on the next attack after a paradigmatic or non-paradigmatic cadence as defined above. Example 4-26 provides an instance of beginning-accent after a

Example 4-26. Notation for a beginning-accent (from La Rue, Missa L'homme armé II, Kyrie, superius, mm. 18-22).

long period of rest. The superius is silent for three-and-one-half breves, then enters on G4. This is clearly a strong voice entry, and is represented by the $\Delta$ symbol. (This entry is also supported by the entry of a CF pitch and by a bassus cadence attack at the same timepoint.)

A beginning-accent is often supported by some other parameter, such as duration, contour or leap. If a phrase's beginning is accented by one of these parameters, it is largely that accent that marks the attack, and not the fact of beginning. Consequently, any timepoint that satisfies the requirements for beginning-accent, but is accented by some other parameter, will be represented only by that other parameter's notational symbol.

Discussion of beginnings of phrases must take into account the idea of anacrusis, which may defined as a
metrically weak pitch or group of pitches preceding a metrically strong attack. By definition, then, anacrusis is a weak "anticipative" event. If the act of beginning always created a strong accent, then anacrusis could not exist, because any pitch attack after a prolonged span of silence or cadential duration would be strongly accented by the fact of its entry. Therefore, if the first attack after a strong cadence is an anacrusis, then there is no beginning-accent, and the attack of the first pitch is represented by the anacrusis symbol, ♩. In Example 4-27, the superius cadences on C5 in m. 5. This pitch is followed by the equivalent of one breve rest, and therefore is represented in the analysis by the cadence symbol, ♯. The subsequent phrase begins with B♭4 on the weakest part of the mensuration. That pitch is

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17 Recall Berry, *Structural Functions*, 327 and 342.
clearly a pickup to the metrically accented A4. The anacrustic role of Bb4 is shown with the symbol ▲, and no beginning-accent emerges. If the attack of the anacrusis is accented by some other parameter, then the symbol representing that strong accent is placed at the corresponding timepoint in the analysis.

An anacrusis is not considered a strong attack after a cadence pitch. Therefore, the timespan boundaries defined above for the determination of strong cz and tz cadences may include anacrusises as the equivalent of rests. In Example 4-28, altus and bassus articulate a strong cz/tz cadence on G3 in mm. 38-39. While the bassus cadence pitch is followed by a long rest, that in the altus is followed by a short rest and anacrusis. Although cadence pitch plus rest do not add up to
a breve in the altus part, the anacrusis B₃ in m. 39 is not a strong entry. Consequently, one hears the attack of G₃ in the altus as a strong cadential event. The analysis uses the symbol □ on that attack to reflect this hearing.

Combined Accents

Any timepoint in a melody may be stressed by more than one type of accent. The following discussion outlines the conditions and notation for combined accents.

Combined Durational and Leap Accent

Durational accent may accrue to any pitch attack also accented by a large leap. These accents are notated as ↓. Third-leaps emphasized by durational accent take the ↓ symbol like any other duration-leap accent combination. This symbol is employed because the long duration gives the accent primary status, even though third-leaps are only slightly accented.

In Example 4-29, F₃ in m. 22 is approached by leap from below;

Example 4-29. Durationally-accented third-leap (from Victoria, Missa Surge propera, Gloria, bassus, mm. 22-23).
it also satisfies the conditions for durational accent. The combined leap and durational accent accrues to the attack of F3 and is represented by $\hat{\cdot}$, as shown on the lower staff.

Combined Durational and Contour Accent

A contour-accented timepoint may also be marked by a durational accent. Any pitch attack satisfying the requirements for both contour and durational accent is symbolized $\hat{\cdot}$. Example 4-30 has two strong accents—an upper contour accent in m. 12, and a lower contour accent in m. 13.

Example 4-30. Combined contour and durational accent (from Josquin, Missa L'homme armé sexti toni, Kyrie, superius, mm. 12-13).

The contour accent on the attack of A4 in m. 12, however, is supplemented by a durational accent. The symbol $\hat{\cdot}$ shows this combined accent. The attack of C4 in m. 13 is represented by the regular lower contour accent symbol, C.
Combined Durational and Cadential Accent

Where a timepoint accented by a cadence is also durationally accented, \( \dd \) represents the combined durational and cadential accent. For instance, Example 4-31 depicts an analysis of a phrase ending with a cadence on C5. The cadential pitch spans two breves, satisfying the conditions for durational accent. The attack of C5 is represented by the combined cadential and durational symbol \( \dd \) on the lower staff.

Similarly, a timepoint accented by a cz or tz that also satisfies the requirements for durational accent is represented by \( \dd \). Example 4-32 illustrates a cantizans cadence on D5. Since that pitch’s duration spans a complete breve, the \( \dd \) symbol corresponds to the attack of D5.
Revised-note Cadences

At cadences where the final pitch in a line is repeated, the question arises whether the first or the second attack of the note is the cadence timepoint. On one hand, the repetition of a final pitch may be heard as an extension of that pitch's duration, supporting the view that the initial attack should retain the accent. In this study, accents at repeated-note cadences generally follow the rules for durational accents involving repeated notes. Therefore, both durational and cadential accent in a repeated-note cadence normally accrue to the attack of the first instance of cp.

On the other hand, text accent may help clarify which pitch attack imparts cadential accent in a repeated-note
The penultimate syllable of the final word in a Mass movement or section is often stronger than the final (e.g., e-lei-son, A-men, ex-cél-sis, nó-bis, pá-cem). If the last two syllables coincide with repeated notes, the stronger text accent suggests cadential accent at the attack of the initial occurrence of the pitch. In the altus of Example 4-33, B4 is repeated at the cadence. The first attack of that pitch sets the syllable -lei, from the word eleison. That timepoint articulates the final pitch in the melody and coincides with the stronger text accent. Moreover, the square brackets in the example show how one may discern the effect of hemiola in this passage. The hemiola creates a pulse that coincides with the attack of the second B3, reinforcing the strong text accent at that timepoint. These factors contribute to the perception of the first attack of B3 as

Example 4-33. Repeated-note cadence in La Rue, Missa L'homme armé II, Kyrie, altus and tenor, mm. 57-59.

18 Recall the discussion on the role of text accents in Chapter III, p. 38.
cadential; thus, that timepoint is represented by the combined cadential and durational accent symbol, \textdagger. In cases where a repeated-note cadence has a stronger text accent on a pitch other than the first in the series, conflict arises between textual and durational accent. For example, there are instances where the first of two repeated notes at a cadence is an anticipation. In these cases, cadential accent accrues to the second of the two pitch attacks. The conditions for anticipation are provided below in the section on embellishments.

Combined Cadential and Leap Accent

If the attack of \textit{cp} satisfies the conditions for non-paradigmatic cadential accent without added durational emphasis, but is also accented by a leap, it is represented by the symbol \textdagger. In Example 4-34, the termination of G3 is followed by a full breve rest; cadential accent thus accrues

Example 4-34. Cadence accent combined with leap (from Josquin, antiphon \textit{Salve regina}, bassus, mm. 56-60).
to the attack of G3. That attack is also accented by an ascending perfect fourth leap, so the symbol \( \uparrow \) in the lower staff shows the combined accent status of that timepoint.

Combined Cadential and Contour Accent

The accent on the attack of the penultimate note in a cantizans paradigm can neither exceed nor be equal to that of the cadence tone. This is because the cadence tone is a melodic goal, and is normally durationally more emphasized than the former. However, if the penult is the lowest pitch in the immediate passage and satisfies the requirements for a contour accent, the possibility for such a conflicting interpretation arises.

To make the relative strengths of these accents clear in the analysis, the analytic notation is altered. If the penultimate note at a cadence is lower than the cadence tone and satisfies the conditions for a contour accent, then that note is shown as a shaded semibreve. Example 4-35 illustrates this situation. In a "Landini" cadence, the antepenultimate note is shown as a shaded semibreve, and the penultimate note (a third under the final) is shown as a shaded round notehead in parentheses (see discussion under the heading "Embellishing Events and Additional Notational Symbols" below). The shaded breve thus signifies that the attack of the lower note in
these cadence formulae satisfies the conditions for contour
accent, but that the cadential accent is stronger.

Example 4-35. Notation for a cantizans cadence where the
penult would normally receive contour
accent (from Josquin, Missa L’homme armé
super voces musicales, Kyrie I, superius,
mm. 15-16).

Contour accent does not accrue to the attack of the
cadential note itself in these situations because the penult
is actually lower. In a tenorizans cadence, however, the
timepoint initiating the cp may have combined cadential and
contour accents if it fulfils the required conditions for
both. In Example 4-36, the onset of C3 in m. 21 is accented
by a paradigmatic tz cadence and by contour. Thus, the symbol on the lower staff represents the attack of that pitch.
Similarly, Example 4-37 illustrates a case of upper contour
accent at a non-paradigmatic cadence. In this example, D5 is
the goal of an ascent from G5. The placement of D5 satisfies
the conditions for contour accent, but D5 is also a
Example 4-36. Tenorizans lower contour accent at cadence (from La Rue Missa L'homme armé II, Gloria, bassus, mm. 18-22).

Example 4-37. Upper contour accent at cadence (from Palestrina, motet Paries quidem filium, superius, mm. 72-76).
Combined Cadential, Durational and Leap or Contour Accent

Timepoints at which all three types of accent coincide occur most frequently in the lowest voice of the polyphonic texture in Renaissance music. The most common instance of this type of combined accent is a non-paradigmatic cp further accented by both leap and duration. When this occurs, the symbol appears in the analysis. Example 4-38 shows one such instance. The bassus F₂ is approached by a descending perfect-fifth leap; its duration spans two full breves, and its termination is followed by a full breve rest. Since this pitch satisfies the criteria for leap, durational and cadential accent, the symbol represents the triple accent that accrues to the attack of F₂.

Example 4-38. Combined cadence, leap and duration accent (from Obrecht, motet, Salve crux arbor vitae (Secunda pars), bassus, mm. 98-102).
Similarly, it is possible for a timepoint to be accented by cadence, duration and contour. This most commonly occurs with paradigmatic \( tz \) cadences in any voice. In Example 4-39, the tenor descends from D\( ^4 \) to A\( ^3 \). The latter pitch is followed by two-and-one-half breves rest, so that cadential accent accrues to its attack. That timepoint is also accented by duration and contour, so it is shown as \( \underline{\text{C}} \).

Example 4-39. Combined cadential, durational and contour accent (from La Rue, Missa L'homme armé II, Gloria, tenor, 92-95).

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Embellishing Events and Additional Notational Symbols

Composers in the Renaissance had recourse to several different embellishing gestures. These included neighbour notes, the "under-third" note of the Landini cadence, anticipations, and échapées. The pitches embellished by these auxiliary events may be marked by either primary or secondary accents. Before discussing how these embellishments will be treated in the analysis, they need to be defined.
All embellishments are contextual. That is, they rely on the surrounding voices for their definitions. In this study, a neighbour note is a pitch that steps away from, then back to the pitch which it embellishes, and whose duration is less than one mensural division. Furthermore, it must be dissonant with some other note or notes in the full texture. In the analysis, as Example 4-40 illustrates, neighbour notes

Example 4-40. Notation for lower neighbour note (from La Rue, Missa L'homme armé II, Kyrie, altus and tenor mm. 45-46).

\[ \text{Notation for lower neighbour note (from La Rue, Missa L'homme armé II, Kyrie, altus and tenor mm. 45-46).} \]

19 The historical role of upper neighbour notes in sixteenth-century polyphony is as yet unclear (see for example Knud Jeppesen, Counterpoint. The Polyphonic Vocal Style of the Sixteenth Century, translated by Glen Haydon (Englewood Cliffs: Prentice-Hall, 1939), 91; Arthur Tillman Merritt, Sixteenth-Century Polyphony. A Basis for the Study of Counterpoint (Cambridge, Mass.: Harvard University Press, 1967), 72; and Peter Schubert, Modal Counterpoint, Renaissance Style (McGill University, 1994), 40). Nevertheless, upper neighbour notes satisfying the basic conditions given here are found in the works of the composers considered in this study. Therefore, both upper and lower neighbours are treated as auxiliary events here.

20 Here we invoke a contextual premise for the purpose of making clear the embellishing function of a neighbour note. In any musical style, a neighbour note is clarified by the fact of its dissonance. This requirement distinguishes these motions from consonant 5-6 intervallic motions.
are placed in parentheses to highlight their embellishing function. The E₄ in the altus is consonant with A₃ in the tenor, which is articulating a tenorizans cadence. The D₃ below E₃ spans less than one mensural division, and creates a dissonance (fourth) with the tenor A₃.

The under-third note of the "Landini" cadence may be considered a dissonant embellishment for three reasons. First, since this figure is commonly found at cantizans cadences, the penultimate (under-third) note must be considered secondary to the antepenultimate. This is because the antepenultimate note forms the sixth or third with the tenorizans, and therefore effects the motion to an octave or unison. Second, although the under-third note forms a consonant fifth above the tenorizans, it creates a dissonant fourth below. Finally, the under-third note is normally shorter than the pitch it follows. These three factors contribute to the perception of the under-third pitch as embellishing. Consequently, that pitch is shown in parentheses when it occurs. Example 4-41 shows the analysis of a Landini cadence. Since the B₃ at the end of m. 10 in the altus is an embellishment, the analysis of the cadence shows the essential motion from C(#)₄-D₄. In this way, the analysis does not falsely show a combined leap and cadence accent on the attack of the cadence tone.

The melodic character of the anticipation had various forms around the turn of the sixteenth century, but was
rhythmically consistent. "Anticipations may, under all circumstances, come only on unaccented quarters [or eighths] of the measure."\(^{21}\) Jeppesen points out that the anticipation is only approached by step from above in the works of Palestrina.\(^{22}\) However, the anticipation approached from below is often to be found in early Italian composers from the beginning of the sixteenth century, and also in the contemporary Netherlanders . . . Here, too, the anticipation

\(^{21}\) Jeppesen, Counterpoint, 94.

\(^{22}\) Ibid.
approached by a descending skip of a third is unusually common, especially with Josquin des Prez . . . 23

Example 4-42 reproduces a situation like that identified by Jeppesen. Here the superius and altus approach a cadence on A3-A4 in m. 33. The basic counterpoint leading to the cadence timepoint is a set of parallel sixths. The A4 quarter note in m. 32 anticipates the arrival of the A4 a sixth above C4. As Jeppesen points out, it does not matter whether the anticipation is consonant or dissonant. 24 Particularly smooth and organic is the effect of the anticipation if it stands directly before the suspension dissonance . . . 25 Such is the case with A4 anticipation, enclosed in parentheses, in Example 4-42.

Example 4-42. Notation for anticipation (from Josquin, Missa L'homme armé sexti toni, Credo, superius and altus, mm. 32-33).

\[ \text{Example 4-42. Notation for anticipation (from Josquin, Missa L'homme armé sexti toni, Credo, superius and altus, mm. 32-33).} \]

\[ \text{\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{example4-42}
\end{figure}}\]

23 Ibid.

24 Ibid., 149.

25 Ibid.
One more embellishing figure—the échappée—requires definition and discussion. The échappée is a pitch that is stepped to and leapt from, that occurs on the weak part of the mensural division, and that creates a dissonant interval with at least one voice in the texture. Example 4-43 illustrates a common use of the échappée. Here, F₄ in the altus makes an octave with F₃ in the tenor on the third quarter of m. 14. The step up to the G₄ creates a dissonant ninth with the tenor, and is followed by a third-leap down to a consonant E₄. Like the other embellishing gestures, the échappée is placed in parentheses, and the music is analyzed as though the decoration were not there.

Example 4-43. Notation for échappée (from Johannes Lupi, motet Gaude tu baptista Christe, altus and tenor, mm. 14-15).
Example 4-44 shows a second kind of échappée commonly used by composers around 1500. That is the cambiata figure—a step down to a dissonance, then leap down a third to consonance.

Example 4-44. Cambiata échappée, (from Obrecht, Missa L'homme armé, superius and altus, m. 133).

In this excerpt, the essential motion between the voices is that of parallel thirds: C₄-E₄ to G₃-B₃ from the first to the third quarters. The C₄-G₃ fourth is filled in with two passing tones. The E₄-B₃ fourth contains a D₄ which creates a dissonant fourth with A₃ in the superius. Again, the échappée is placed in parentheses, and the altus passage is analyzed as though it were not there.

Ties

The analytic symbology and methodology presented above will represent most pitch attacks in a piece of sacred
polyphony from around 1500. However, pitches are often repeated in this repertoire with breath rests between the end of one occurrence and the onset of another. Occasionally, the first in the series of pitches is accented by leap or contour. Since the breath rest does not interrupt the melodic continuity, the strong accent is shown only on the initial attack of the pitch. The breath rest is notated (with the symbol BR above it), and the tie joins the notes on either side of the breath rest. This will occasionally result in two different analytic symbols joined by a tie. In Example 4-45, for instance, C4 is attacked by an octave leap, followed by a breath rest, and repeated. The analysis shows the strong leap accent on the attack of the initial C4 tied to the weaker accent on the attack of the repeated pitch.

Example 4-45. Pitches separated by a breath rest (from Josquin, Missa L'homme armé sexti toni, Kyrie, tenor, m. 12).

If the cumulative values of C4 here were to satisfy the conditions for repeated-note accents, the symbol I would correspond to the attack of the initial C4 (cf. the discussion under duration earlier in this chapter).
Analysis of the Cantus Prius Factus

Compositions set to a cantus firmus (CF) generally present the original tune in long-note values. In effect, this procedure creates durational accent on the attack of every CF pitch. Instead of showing all these accents, however, the analysis shows only the original accent structure of the CF tune. This approach will help us understand the relationship between the pitches at accented timepoints in the original melody and the timepoints accented by the added voices in the piece.

Where only a partial cantus prius factus is used in a movement, its final pitch is considered cadential, regardless of that note's original function in the melody. The cadential accent augments the original accent for the onset of that note. An elaborated cantus firmus is subject to the same analytic procedure as the other voices.

Conclusion

The analysis will proceed with the strict application of the rules and their respective notational symbols given above to Missae L'homme armé by Josquin, La Rue, Obrecht and Ockeghem. Application of the rules in combination with our unique form of notation shall produce clearly-notated overviews of each movement. These overviews will show the
relative strong-weak inter- and intraparametric accent strengths for individual voices, as well as accent coincidence between voice parts.

The methodology and notation proposed above are designed to show how the strong accents created by individual melodies combine in polyphonic works. Although such events as durationally-extended note values and large leaps are visually apparent in a musical score, the full-textured interaction of those events is less evident. Our notation makes simultaneous accents in two or more voices more immediately visible. It clearly distinguishes relative strengths of accent in the full texture—whether there is an accent at any given timepoint in one, two, three, four or more voices. Consequently, the analysis will allow us to rank the accented timepoints in a piece on the basis of both number of voices and strengths of accent. The notation of accent structure will also reveal regular and irregular timespan organization created by these strongly accented timepoints in the multi-voice aggregate, and thus provide us with insight into form.
CHAPTER 5

ANALYSIS

We outlined the analytic approach and symbology in the previous chapter; let us now apply it to examples from the repertory. This chapter presents the analyses of Kyries from five different L’homme armé Masses. The Masses from which the Kyries come are considered in chronological order—Ockeghem, Obrecht, La Rue and Josquin. Confining the analyses to same-texted movements allows us better to compare and contrast rhythmic, formal, and pitch-class patterns generated by individual voice parts, and by coincident strong accents in the polyphonic texture. Since the Kyrie movements of Masses are commonly divided into three distinct sections on the basis of text—Kyrie eleison, Christe eleison, Kyrie eleison—they provide us with a consistent model for comparing the works of the different composers.

The analysis proceeds in three stages. Discussion begins with general observations on special features of each movement. Such features include voicing, CF treatment, texture, mensuration, canonic techniques and text underlay,
which set the context for the analysis. The second stage considers details of the different voice parts, called superius, altus, tenor and bassus in this study. Here we will comment on timespan periodicity created by the distribution of strong accents in a section. Moreover, we will address phrase structure arising from cadential accent, and point out patterns of pitch-class coherence afforded by the different primary accents.

The third stage is a more synoptic analysis that focuses on the interaction of strong accents. Accent distribution in the polyphonic texture, regularity of timespans created by strongly accented timepoints, confirmation or denial of the beginnings of breves, consistency of pitch-class at accented timepoints, and form are the principal issues under consideration here. These synoptic analyses uncover features of polyphonic structure specific to each movement, as well as structural features that can be compared to other movements. Moreover, they show that timespan patterning and emphasized pitch classes in individual melodies are often manifest in similar patterns created by coincident three- and four-voice accents.

We will require clear graphic representations of each movement's accent structure to facilitate our comparison. These are obtained by removing weak and unaccented events from the full analyses of the Kyrie settings. The resultant extraction of strong accents constitutes an accent profile of
each movement. These profiles in turn allow us to compare and contrast different pieces’ formal structures.

Analysis of L’homme armé

The five Kyrie settings considered in this study all use L’homme armé as a CF; therefore, it is analyzed first. As was noted in Chapter III, the accent structure of a long-note CF does not depend on the exact durations employed in the framework.

Example 5-1 analyzes melodic accent in one version of L’homme armé.¹ The mensuration is tempus imperfectus cum prolacione perfecta, transcribed in the Cohen study as ‡. The longest durations are the two dotted whole notes—which represent breves in this transcription—in mm. 9 and 31. Durational accent accrues to their attacks only, because the remainder of the durations (including repeated-note combinations) are uniformly half-, whole- or dotted-whole-note values.²

¹ The source for L’homme armé in Example 5-1 is Judith Cohen, The Six Anonymous L’homme armé Masses in Naples, Biblioteca Nazionale, MS VI E 40 (American Institute of Musicology, 1968), 10. This version of the tune is used in several of the movements analyzed in this study.

² Thus, although the dotted-half values would normally create durational accent according to the definitions provided in Chapter IV, here they do not. If all values equal to or greater than a dotted half were analyzed as durational accents in this particular monophonic song, then there would be twenty one such accents in a span of seventeen breves. Such an analysis clearly would not bear out the listener’s experience.
The tune exhibits a simple ternary (ABA') structure with each section made up of short but distinct phrases. The ends of the phrases are marked either by leaps or by descending stepwise motion. These step-descents at the ends of phrases are analyzed as tenorizans cadences. Cadential accents thus occur in mm. 4, 9, 23, 27 and 32. The first pitch attack in A is symbolized as △ (beginning-accent). The initial G4 at the return of A' is represented by the same symbol. In this way, the symbology represents and clarifies the form of the tune. Furthermore, analysis of the ORIG REP pattern at the beginning of section B exemplifies how the symbology represents melodic
design by distinguishing the members of the phrases in the melody.

Some of the composers represented in this study use a modified version of *L'homme armé*. Example 5-2 shows this common modification, which substitutes an E3 for the last G3 in the ORIG REP motives. The analysis shows the attack of the E3 as taking a third-leap accent. Nevertheless, the attack of D3 at the end of the phrase takes a contour accent, so the extra leap does not affect the strong accents in the original tune.

Example 5-2. Analysis of modified motive from *L'homme armé* (from La Rue, Missa *L'homme armé* II, Credo, altus, mm. 104-107).

Having discussed general and specific elements of the analysis, and pointed out large-scale formal divisions, let us move on to the extraction of non-accented elements. To do this, we simply remove all shaded noteheads to get a picture
of the primary accents in the tune. The extraction shown in Example 5-3 shows that strong accents mark off alternating longer and shorter timespans. Representing the extracted analysis graphically produces the pattern in Figure 5-1.

Example 5-3. Extracted analysis of *L'homme armé*.

![Musical notation](image)

Figure 5-1. Timespan patterning created by strong accents in *L'homme armé*.
Each measure in the upper part of the figure corresponds to one measure of music (i.e., breve) in the original song. Vertical lines joined by horizontal lines in the lower part of the figure indicate beginnings and endings of phrases marked off by the various strong accents.

Example 5-3 and Figure 5-1 provide information on how melodic accent creates broad rhythmic patterns in L'homme armé. Strong accents highlight the beginnings and endings of phrases, and therefore of longer and shorter timespans in L'homme armé. The timespans between primary accents shown in Figure 5-1 can be interpreted as motivic. For example, the regular alternation of longer and shorter spans in the A and A' sections may be heard as a repetition of a free augmentation of the prominent rhythmic motive, \( \circ \) \( \underrightarrow{\text{())}} \). The A section is structured as mm. 1-4 = \( \circ \); m. 5 = \( \underrightarrow{\text{())}} \); mm. 6-9 = \( \circ \); m. 10 = \( \underrightarrow{\text{())}} \).

In contrast to the long-short alternation of A and A', the B section has two long timespans in a row followed by a shorter one. The shorter span here corresponds to the rest and anacrusis in m.11. The final phrase in B is longer again. However, the longest timespan between accents in B is only three measures; every other long timespan in the tune traverses four measures. Thus, the ABA' form of the tune, evident in contrasts of register and phrases, is also manifest in the contrasting timespan patterning created by melodic accent.
The analysis of the cantus prius factus has shown how the analytic methodology and extraction process may be applied in a monophonic texture. The information gleaned from the analysis provides us with details on the relationship between accent-delimited timespans and formal structure. Now we are prepared to move on to the L'homme armé Kyries under consideration in this study.

Ockeghem, Kyrie I from Missa L'homme armé

Example 5-4 presents the analysis of the first section of Ockeghem’s Kyrie. The scribe’s text underlay in this section is shown in the example; it is limited to the opening "Kyrie" and closing "eleison" (so all the remaining underlay in the score is editorial). The mensuration signature (O) denotes tempus perfectus cum prolatione imperfecta. The breve in this transcription is represented by a dotted breve (double-whole note). The movement lacks imitation, and features a general uniformity of rhythmic values in each voice part.

The cantus prius factus is in the tenor, in long-note values. Its analysis corresponds to that given in Example 5-1, with one exception. The A section lacks its final D4-G3

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fifth-leap. This omission proves to be important to the accentual design of the movement.

The superius exhibits several primary accents of different types in the first four measures alone. It begins with a durational accent ($\circ$), then climbs to C5, whose attack is marked by a contour accent ($\breve{c}$). The subsequent third-leap to A4 is marked by the symbol $\nabla$ to show the combined leap-plus-duration accent at the beginning of m. 2. The attack of the D4 cadence pitch in m. 3 (tenorizans paradigm) has a combined cadential-plus-contour accent ($\underline{\breve{c}}$). This and the cadential-durational accent symbol in m. 13 (\$) make clear the short-long phrase structure of this part.

Other symbols in the superius include the anacrusis at the end of m. 3. Here, C5 satisfies the criteria for anacrusis, and clearly functions as a pickup to the durationally-accented D5 beginning in m. 4. In m. 5 the onset of C5 is marked by a leap accent; this immediately follows a lower contour accent on the attack of G4. Durational accent only, represented by $\circ$, accrues to the attack of A4 at the beginning of m. 8 despite the approach to that pitch by a cadential formula. (The superius cantizans in m. 7 is paired with altus tenorizans. A4 in the upper voice is suspended and resolves to G4, which then steps back up to A4 in m. 8. Ockeghem evades the cadence by continuing with a third-leap to F4 in the same measure. The cadential accent is weakened by the continued melody, but strong durational accent still
accrues to the attack of A4.) This type of cadential evasion is common to Renaissance polyphony.

Weak accents in the superius include the evaded cadence (○) on the downbeat of m. 10. In the preceding measure, the superius A4 is set against a suspended altus G4, which resolves (embellished by a third-leap) to F4. This decorated 2-3 suspension suggests a cantizans-tenorizans cadence paradigm. However, the superius does not resolve to G4 with the altus; instead, it evades the cadence by stepping up to B4.

Measure 11 contains an instance of the cambiata échappée. C5 in that measure satisfies the criteria for that figure; it is rhythmically short, and it is dissonant with both the tenor and bassus. Consequently, the échappéé is represented by the symbol (●).

Now let us consider what these accents suggest about the overall structure of the superius melody. Strongly accented timepoints in this voice part generally do not coincide with the beginnings of mensural units. Only six of the thirteen mensural pulses have such coincidence. Both strong cadences, however, coincide with the beginning of a notated breve, in mm. 3 and 13. The first phrase is shortest with a distinct up-down arch contour, and is strongly marked by four primary accents. The second phrase is longer, with a more undulating contour and more strong accents.
Two patterns emerge from the analysis of the superius. Strong accents (excluding cadences) generally appear in immediate succession, with no intervening weak accents, in series of two. This is evident in mm. 1-2, 4, 5, 9 and 12. Also, cadential and durational accents tend to coincide with downbeats, while leap and contour accents generally do not. Although there is no broad rhythmic patterning in this voice part, the analysis might point to hypotheses about Ockeghem's placement of cadential accents with respect to the notated mensuration. However, it would be premature to draw conclusions before we have considered the altus and bassus voice parts.

Before we move on to discussion of similar topics in those other voices, let us see whether the analysis reveals coherence of pitch class. There are eighteen strong accents in the superius. Of these, six coincide with attacks of D, five with G, three with A, two with C and one each with E and F. These findings expose emphasis on G and D (pitch classes which are repeatedly emphasized in the CF).

Let us examine, in light of observations on the superius melody, similar aspects of the altus (called contratenor in the original). The altus has three distinct phrases. The first opens with a durational accent on the attack of D4, then climbs to an upper contour accent at the onset of A4 in m. 2. This pitch is followed by two large leaps accenting the attacks of D4 and G4 respectively. A "Landini" cadence--with
under-third note in parentheses—closes this opening phrase. The cadential attack of G4 in m. 4 is followed by a second attack of the same pitch. That second attack may be considered a repeated-note extension of the cadential event, and thus imparts combined cadential-durational accent to the attack of G4. The cadential pitch is also the starting pitch of the next, overlapping phrase.

The second phrase contains a breath rest (BR) in m. 6, separating the contour-accented timepoint on G3 from the next pitch, D4. This type of rest does not interrupt the fifth-leap between the two pitches, so the attack of D4 is shown with the leap accent symbol ∪.

In this voice part, as in the superius, strong accents often occur successively in twos. There is one instance of three successive accents, in mm. 2-3. There are, however, some isolated accented timepoints. Cadential and durational accents in the altus tend to coincide with the beginnings of notated breves; the analysis revealed the same pattern in the superius.

Overall, the accent structure of the altus is similar to that of the superius. Of the thirteen notated breves, six have strongly accented attacks at their beginnings. Timespan groupings suggested by the strong accents do not yield regular rhythmic patterns. Consideration of pitch-class emphasis also reveals correspondence between the two voice parts. Of the sixteen strong accents in the altus, seven mark attacks of G
and six of D. The remaining four are spread among pitch classes A (two), C (one) and F (one). The same pattern of emphasized G and D emerged in the superius analysis.

Despite the similarities, there are some points of distinction between altus and superius. For instance, the short-long phrase structure of the superius is contrasted by the short-long-short organization of the altus. (These lengths are distinguished by the cadential accent symbols, $\square$ and $\blacksquare$ in the altus). Also, the contour is more meandering in the altus; the second phrase in particular (mm. 5-10) is characterized by many changes of direction. This characteristic is reflected in the analysis by the abundance of both the leap and third-leap symbols ($\diamondsuit$ and $\heartsuit$ respectively).

Let us turn now to the bassus and compare it to the upper voices. Two aspects of this voice part immediately emerge from the analysis. First, there are no strong cadences. Such an event occurs only in m. 13, on its final attack. The cadential accent here is supplemented by leap and durational accent, so the attack of G3 in that measure is represented by the symbol, $\square$. Second, the profusion of the $\diamondsuit$ symbol reveals the emphasis on leaps in this voice part. Of the twenty strongly accented timepoints in the bassus, sixteen are approached by leap.

In m. 9, for instance, there is a third-leap from G3-B3. A primary leap accent ($\diamondsuit$) is shown on the attack of B3 because
it ends a double leap from D₃-G₃-B₃; since the first of the two leaps is a perfect fourth, a strong leap accent also accrues to the attack of G₃. Measure 11 provides an instance of another double leap--D₃-F₃-A₃--with a breath rest between the first two pitches. Again, the breath rest does not interrupt the accent structure.

The analytic notation reveals at a glance the different nature of the bassus melody compared to superius and altus. There is no consistent pattern to the accents. Unlike the altus and superius, in which strong accents tend to appear successively in groups of two with several intervening weaker attacks, the bassus accents appear singly, or in groups of two or three (e.g., mm. 2-3). In only two places (mm. 6-7 and mm. 9-10) are there more than two weakly accented attacks between two strongly accented timepoints. Only the final pitch attack conforms to the patterns of the other two voices; it is a cadence attack, supported by duration and leap, and coinciding with the beginning of the notated breve. The only feature analogous to the upper voices is the coincidence of only five strong accents with downbeats--in mm. 1, 3, 4, 11 and 13.

Finally, let us consider emphasis of pitch class in this voice part. Analysis of the superius and altus revealed that attacks of pitch classes G and D were most often marked by strong accents. In the bassus as well, G and D are most prominent. Of the seventeen strong accents here, twelve occur on attacks of G or D; of these twelve, eight are on G alone.
Thus, all three voice parts in Kyrie I are consistent in their emphasis of certain pitch classes.

We are now prepared to move on to the focus of our study: discussion of how the accent structures of the polyphonic parts interact to create structural features on the basis of which this passage can be compared to other sections and movements of this work, and to works by other composers.

To begin with, the analytical notation clearly shows that the accents are staggered in time. There are relatively few occurrences of coincident strong accents in three or four voices, a fact which underscores the independence of the parts. Indeed, there are several instances where no strong accent in any voice coincides with the beginning of a breve (e.g., mm. 5, 6, 7, and 12). However, when two voices simultaneously have strong accents, the other voice or voices usually have a strong accent within one preceding or succeeding breve. For example, the bassus and altus both have strongly accented attacks on the downbeat of m. 11. The superius and tenor have strong attacks within one preceding breve, and the superius follows with a combined duration-leap accent in less than one breve.

We may also observe patterns suggested by the most strongly accented timepoints—those at which three or four voices articulate coincident strong accents. They occur on the downbeats of mm. 1, 3, 4, and 13, with the coincidences in mm. 4 and 13 strongest. This is clear from the notation,
which shows strong accents in all four voices, including at least one combined accent. These two most strongly-accented moments in the section coincide with the only two cadential accents in the CF. There is also a relatively strong timepoint at the downbeat of m. 8, stressed by cadential accent in the superius and altus, and the beginning-accent imparted by the strong entry of D4 in the CF.

Consideration of pitch-class at the four points of three- and four-voice coincident strong accents shows the same emphasis that was revealed in the analysis of individual voice parts—G and D are the prominent pitch classes. Both are attacked at all four points, with G appearing nine times and D five.

Ockeghem: Christe from *Missa L'homme armé*

As we proceed to the remaining two sections of the movement, we will point out general and specific issues as before, but we will emphasize the third portion of our investigation—the coincidence of accent in multiple voices.

The Christe section, analyzed in Example 5-5, exhibits the same editorial text underlay as the Kyrie—only the opening "Christe" and closing "eleison" are set by the composer. The mensuration signature (C) suggests *tempus imperfectus cum prolatione perfecta*. The editorial transcription in diminution yields the *prolatione perfecta*
Example 5-5. Analysis of Ockeghem, Missa L'homme armé, Christe, mm. 14-27.
within each measure, while two measures combine to form the
*tempus imperfectus*. To avoid confusion, we will continue to
use the bar lines as determinants of the breve, represented
here by a dotted double-whole note. The CF voice, again the
tenor, presents the complete B section of *L'homme armé*.
(Ockegehm uses the version with inserted third-leap in the
second segment of B.) Longer durations prevail in this
section, although an acceleration appears at the end.

Analysis of the superius melody immediately reveals some
interesting features of melodic structure. The three
principal types of strong accent (duration, leap/contour and
cadence) are represented fairly equally throughout, but the
cadence attacks are of particular interest. The superius tune
is divided into three phrases ending with strong cadence
attacks on the downbeats of mm. 20, 24, and 27 respectively.
The three phrases are thus in the order long-short-short,
which contrasts with their order in the opening Kyrie.
Moreover, all three phrases have an overall up-down arch
contour with dual-accented attacks on a single high pitch--F5
in the first phrase, B♭4 in the second, and D5 in the third.

The distribution of strong accents with regard to the
notated breve contrasts with that noted in the first section.
There, less than half the downbeats had coincident strong
accents. In this section, such coincidence occurs on ten of
the fifteen notated downbeats. Since the downbeats are
commonly supported by some strong melodic accent in this part,
we may feel a regular pulse corresponding to the beginning of the notated breve.

Highlighted pitch classes in the superius of the Christe also contrast with patterns noted in Kyrie I. In that first movement, strong accents most commonly coincided with attacks of G and D. Here, there are sixteen strong accents in the superius, but they are more evenly spread among the pitch classes. Four coincide with attacks of C, and four mark the onsets of F. G is similarly highlighted three times, D twice, and A, B♭ and E once. The more even distribution of accented pitch-class attacks in the superius of the Christe contrasts with the greater emphasis given to specific pitch classes in Kyrie I. This parallels the contrasts of phrasing and accent patterning in the same voice for the two sections.

Elements of similarity and contrast exist between the altus parts of the two sections. The altus phrasing in the Christe is identical to that in Kyrie I--three phrases defined by strongly-accented arrivals on the downbeats of mm. 20, 24 and 27. Arch contours are evident in the first and third phrases, while the second phrase has a contrasting inverted arch. In contrast to the first movement, strong accents coincide with more notated breve beginnings; here, coincidence occurs on nine of fifteen. This emphasis on the downbeat contributes to a feeling of a regular pulse underlying this voice part in the Christe, as it did in the superius.
The durational accent symbol on E4 in m. 20 requires explanation. The altus-superius pair appear to set up a \( cz/tz \) cadence paradigm in m. 19. The superius C5 first makes a sixth with the altus E4, then is suspended as the lower voice steps down to D4. The C5 suspension then resolves to B4 to create a sixth with the altus D4. When the superius cadences to C5, the altus evades its cadence to C4 by stepping up to E4. This is a durationally-accented evaded cadence, so only the durational accent symbol, \( o \), is used. The strong durational accent supports the evaded cadence, and contributes to the perception of three distinct phrases in the altus.

The contrast between timespan patterning in the altus in this section and Kyrie I extends to patterns of pitch class. Strong accents in the Christe do not emphasize particular pitch classes as they did in the first section. Of the sixteen strong accents here, four occur on attacks of D, three each on C and E, two each on G and Bb, and one each on A and F.

Turning now to the bassus, we see that its phrase structure corresponds to that of the superius and altus. Strong cadence attacks in mm. 20, 24 and 28 mark off three phrases whose lengths are seven, four and four breves respectively. However, the bassus lacks the well-defined arch contours of the other voices. As in the Kyrie, it is permeated with more leaps than are the upper voices. Also, strong accents coincide with nine of the fifteen notated
downbeats, supporting the pulse suggested by strong accents in the two upper voices. Overall, in this section, all three voice parts exhibit a mixture of successive and isolated accents. However, although this mixture itself does not produce rhythmic patterning in any voice, the consistently emphasized downbeats suggest a pulse corresponding to the notated downbeat. The downbeat emphasis in this passage contrasts with the lack of such emphasis in Kyrie I.

Turning now to the topic of pitch class for the bassus, the analysis reveals the same pattern of contrast noted in the superius and altus. G and D were strongly emphasized in the bassus of Kyrie I; in the Christe, however, strong accents are distributed more evenly among the pitch classes. Five strong accents mark the attacks of G, four of C, three of A, two of B♭, two of F and one of D.

Having completed our discussion of the individual voice parts for the Christe, we may now compare the distribution of coincident accents in this section with those of Kyrie I. As with that opening section, cadential accents occur simultaneously in the various voices, and coincide with the mensural pulse. However, we find in the Christe a greater frequency and a more even distribution of timepoints with coincident accents in three or four voices. Such coincidences occur in mm. 14, 15, 17, 18, 20, 21, 24, 26 and 28. All coincide with the beginning of the notated breve except for the one in m. 18. There are only two instances where no
accent at all occurs on the downbeat--mm. 16 and 27--and two instances where only one voice has a strong attack on the downbeat--mm. 18 and 22.

There are fewer isolated accents, and there are proportionately more accented attacks in each voice than in the opening Kyrie. Half or more of the pitch attacks in the superius, altus and bassus in this Christe are accented in some way, while significantly less than half are accented in the first Kyrie. The analysis thus reveals contrast between a texture permeated with many regular coincident strong accents in the Christe and few of the same in the opening Kyrie. This contrast helps contribute to a sense of form in the movement.

The pitch classes emphasized at points of coincident strong accents, on the other hand, provide unity rather than contrast between the Christe and Kyrie I. Despite the more even distribution of highlighted pitch classes in the individual voices of this section, timepoints at which three or four voices coincide with strong accents emphasize certain pitch classes. Notably, D is attacked with a primary accent at six of the nine such timepoints, while G is similarly initiated at four (including the first one and the last two). In terms of numbers, there are a total of twenty eight strong

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Specifically, the ratio of accented attacks to unaccented in the Christe are as follows: superius, 18:37; altus, 16:28; bassus 17:29. In the opening Kyrie the ratios are: superius, 16:49; altus 17:47; bassus 20:44.
accents at the nine coincident timepoints. Of the twenty eight, fifteen mark the onset of G (eight) or D (seven). Thus, the analysis clearly points to emphasis of particular pitch classes at points of strong accent coincidence.

Ockeghem: Kyrie II from Missa L'homme armé

The analysis in Example 5-6 will help us discover the important features of the third part of Ockeghem's Kyrie, and compare them to those of the preceding two sections. The same text underlay is evident here as in the opening Kyrie. The mensuration is once again tempus perfectus cum prolatione imperfecta (O), with the breve transcribed as a dotted double-whole note. The tenor is the CF voice, presenting the A' phrase of L'homme armé. The CF is completed on the downbeat of m. 38, and the tenor then engages in free counterpoint until the end of the movement. Rhythmic values in each voice part are fairly uniform, with the tenor and altus accelerating slightly in a run to the final cadence.

The notational symbology in the altus requires clarification in two places. First, this voice seems to articulate a tenorizans (abbreviated tz) on the attack of A3 in m. 39. However, with no accompanying cantizans (cz), no durational accent, and no significant amount of rest following
Example 5-6. Analysis of Ockeghem, Missa L'homme armé, Kyrie II, mm. 29-41.
the pitch, there can be no cadential accent at that timepoint. Second, in m. 30, the altus has an anticipation on D4. Anticipations approached with a descending third-leap are common in the works of these composers. Here, the D4 at the beginning of m. 31 is anticipated by its appearance as a rhythmically weak dissonance at the end of m. 30. The third-leap is represented by the symbol, but its embellishing function is shown by the use of parentheses.

Examination of individual melodic structures reveals some interesting formal characteristics. The superius has a short-short-long phrase structure reminiscent of that of the opening Kyrie, and retrograde to that of the Christe. Cadences occur in mm. 32 and 35, and the phrases they end have simple arch contours. These opening phrases are the same length--both span three breves from the first strongly accented attack to the cadence. Once again cadence timepoints coincide with the mensural downbeat. The third phrase is a meandering melismatic line that ends with the final cadence on G4.

Accent distribution in the superius with regard to downbeats returns to the pattern noted in the opening Kyrie. In this section, accents coincide with only five of thirteen downbeats. Of those five, four occur in the first two

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5 Recall the discussion and use of the abbreviations tz and cz from Chapter IV, pp. 95 ff.

6 Recall the discussion of anticipations on pp. 117-118 of the preceding chapter.
phrases; three of the coincidences are the cadence attacks, and one is the opening attack.

Patterns of pitch class in the superius of Kyrie II contrast with those of the Christe. There are fourteen strong accents in the superius of this section; of these, five mark attacks of D and four of G. This represents a return to the pattern of Kyrie I, in which D and G were also the most emphasized pitch classes. Let us continue our investigation with the altus of Kyrie II to see if similar patterns of accent distribution and pitch class emerge in that voice part.

In general, the altus, which had well-defined arching contours in the Christe section, returns to a more meandering nature with a preponderance of leap and contour accents; this recalls the altus phrases of the opening Kyrie. Also similar to the altus of that section is the de-emphasis of the notated downbeat. Here, as in Kyrie I, strong accents coincide with fewer than half the downbeats—six of thirteen. Of the six, five are found in the opening two phrases. Moreover, accents occur frequently in isolation in Kyrie II, as they did in the opening section. In the Christe, they more often appeared in succession.

On the other hand, pitch-class patterns in the altus correspond more closely to those found in the Christe than in Kyrie I. Of the fourteen strongly accented pitch attacks here, three occur on each of D, F and G, two on A, and one
each on C, E and B. This even distribution resembles the pattern in the middle section.

The general character of the bassus melody in this final section remains consistent with that of the Christe and Kyrie I. It exhibits a predominance of leap or leap-plus-duration accents. In mm. 31-33, for instance, three successive strong leap accents culminate in a duration-leap-cadential accent. Similarly, mm. 34-36 have five successive strong accents, while mm. 38-39 contain four leap accents in a row, interrupted by a breath rest. Of the thirty seven discrete attacks in this part, twenty one are strongly accented; of those twenty one, sixteen are approached by leap.\(^7\)

The bassus has two strong cadences in this section—one in m. 33, the other in m. 41. Both cadence attacks are emphasized by a combined cadence-leap-duration accent, symbolized \(\underline{\downarrow}\). These cadences again coincide with the notated downbeat. Indeed, strong accents coincide with eight of the thirteen mensural pulses in this part. The greater coincidence of accents on downbeats in the bassus part of this section closely follows the pattern of the Christe section (where strong accents coincide with nine of fifteen the downbeats), and contrasts with the opening Kyrie (five coincidences out of thirteen).

\(^7\) The profusion of leap accents in the bassus suggests that this voice is beginning to function more as a "bass" than as an independent, conjunct melody. It also suggests that leap accents in this part might not have as strong an effect as in the upper voices, where conjunct motion predominates.
In terms of pitch-class consistency, the bassus melodies of Kyrie I and Kyrie II are closely connected. In the former section, G and D were emphasized. Here, strong accents on the attacks of those pitch classes account for thirteen (seven on G, six on D) of the twenty one such attacks. No other pitch class is emphasized by a strongly accented attack more than twice in Kyrie II.

In summary, most of the characteristics manifested by the accent structures of the individual melodies in this second Kyrie contrast to those in the Christe, and are similar to those in the opening section. The interaction of accents echoes this pattern. As in the opening Kyrie, there are few points of coincident strong accents; however, where those points coincide with downbeats, there is always a strong cadential accent in at least one voice. This is the case in mm. 32, 33 and 41. By contrast, the Christe section had several instances of strong coincident accents that did not include cadences on downbeats.

We noted in the first two sections that coincident strong accents consistently emphasized certain pitch classes, notably G and D. The same observations may be made in Kyrie II. Coincident strong accents in three or four voices occur in mm. 29, 30, 32, 33, 36, 40 and 41. Strongly accented attacks occur on G at four of these seven points (mm. 29, 32, 40 and 41) and on D at four (mm. 29, 32, 33 and 41). Moreover, there are a total of twenty four strong accents at these timepoints.
Of the twenty four, ten mark attacks on G, five on D. The remaining nine are spread among the remaining modal-diatonic pitch classes.

The analytic observations made above suggest that this second Kyrie is closer in character to the first, and that the movement as a whole has an overall ABA' formal structure. For instance, regularity of accent coincidence with the downbeat in the individual voices was generally not evident in the two Kyrie sections. In the Christe, however, the analysis revealed that strong accents generally coincided with the downbeat, suggesting a pulse corresponding to the beginning of the notated breve. The same patterns among the three sections were revealed when we considered accent interaction and coincidence. Moreover, patterns of emphasized pitch classes in the superius and bassus suggest the same ternary design. Strong accents in Kyrie I and II emphasized specific pitch classes; in the Christe, no such emphasis was found.

Ternary form, both of the text and of the CF, is evident in the ABA' structure manifest in the patterns of accent distribution in the individual voices, as well as in patterns of coincident strong accents. Despite the formal contrasts, however, there are elements of unity in this Kyrie. For instance, pitch-class consistency at points of coincident strong accents helps to unify the complete movement. In particular, the sections of the ternary form generated by
patterns of accent distribution are unified by the consistent emphasis on pitch classes G and D throughout the movement.

Obrecht, Kyrie I from Missa L’homme armé

Having completed the analysis of Ockeghem’s Kyrie, pointing out accentual patterns in individual voice parts, and elements of form, rhythm and pitch class suggested by coincident accents, let us turn to the works of the other composers, beginning with Obrecht.\(^8\) The text underlay in all three sections of Obrecht’s Kyrie parallels the structure of the underlay in Ockeghem--the scribe inserted only the opening words "Kyrie" or "Christe" and the final "eleison." The analysis for the opening Kyrie is given in Example 5-7. The mensuration for this section is tempus perfectus cum prolacione imperfecta (O), transcribed as $\frac{3}{2}$ in this edition. Thus, the breve is represented by a dotted whole note. Timespan boundaries are therefore conceived with reference to that value, or portions of it.

The tenor is the CF voice, and presents the complete A section of L’homme armé plus the first phrase of the B section. For our analysis, this means the tenor ends Kyrie I with a leap, E4-B3 in mm. 17-18. Recalling our rule for

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Example 5-7. (Continued.)
analysis of a cantus prius factus, we note that cadential accent supplements the original accent accruing to the attack of a CF pitch if that pitch ends a movement or a section within a movement. Thus, the attack of the tenor B3 in m. 18 is represented with a combined cadence-leap accent, \.

The final four-voice cadence in this first section contains a curious omission: the tenor is silent. This deletion is explained by modal theory. A quick glance at the final cadences for all three sections of Obrecht's Kyrie reveals a mode on A (Aeolian). This mode may have been suggested to the composer by the opening fourth (E-A) of the cantus prius factus. However, because Obrecht uses the first phrase of section B from L'homme armé in this section, his tenor ends on B3. This makes it impossible to emphasize the Aeolian final, A. Obrecht finesses the problem by making cadences in the superius, altus and bassus after the tenor ends.

The superius in this section has a preponderance of durational and leap accents. In contrast to the carefully shaped arch contours found in Ockeghem's Kyrie, the analysis here shows a melodic style characterized by many directional changes and frequent breath rests. In m. 16, for example, Obrecht uses a breath rest to soften the dissonant seventh-leap from A3-G4. Accented pitch attacks in this section frequently coincide with the beginnings of breves. Strong cadences occur on the downbeats of mm. 7 and 19. The cz
evaded cadence attack in m. 15 is durationally accented, and also initiates the subsequent overlapping phrase.

The analysis reveals twenty four primary accents in the superius of Kyrie I. Of the twenty four, only nine coincide with attacks of pitch class A. Secondary emphasis is given to pitch classes C (five strongly accented attacks), G (five also) and E (four). This accounts for twenty three strong accents in this voice part. The remaining accent marks the attack of D4 in m. 6.

The altus, like the superius, has many leap and durational accents in this section, and lacks the well-defined arch contours seen in Ockeghem's Kyrie. This melody divides into three phrases, with strong cadences on the downbeats of mm. 8, 12 and 19. In m. 8, a combined duration-plus-cadence accent is shown on E4. A check of the score reveals that the duration of the E4 ending the cantizans does not satisfy the requirements for primary accent status. However, the subsequent phrase is initiated by an attack on the same pitch. The repetition of the pitch after such a short break may be heard as the repetition of the cadence pitch after a breath rest. Therefore, the analysis represents the attack of the initial E4 with the symbol, \( \downarrow \). The attack of the reiterated E4 is the beginning timepoint of the next phrase; consequently, that attack is represented by \( \Delta \), and the two accent symbols are joined with a tie.
Accented timepoints in the altus coincide regularly with the beginnings of notated breves; this is the case eleven of the nineteen measures. Moreover, strong accents frequently mark the onsets of pitch classes A, C, and E. Of the twenty-six accented attacks in that voice, twenty-three occur on one of those pitch classes (including fourteen on E).

Analysis of the bassus reveals a more conjunct and smoothly shaped line than the altus. Moreover, it contrasts sharply with the predominantly disjunct bassus of the Ockeghem Kyrie. For instance, its first phrase (mm. 5-8) begins on A2, then climbs by step or minor third to A3 before falling to a cadence on E3. The second phrase (mm. 9-19) has several such rising and falling contours culminating in a strongly directed stepwise ascent to a contour-accented G3 in m. 18. Cadential attacks occur on the downbeats of mm. 8 and 19 only. Strong accents frequently occur in isolation. They coincide with eight of the sixteen notated downbeats in the bassus, but only in the last five measures do they occur on successive downbeats. Thus, for the most part the accent distribution in this voice part does not support the mensural pulse.

The analysis reveals that the bassus does, however, have a high degree of pitch class consistency corresponding to the superius and altus in this section. There are nineteen strong accents in this voice part. Of those nineteen, eight occur on attacks of A. Attacks of pitch classes E and D are secondarily emphasized by four strong accents each.
remaining three strong accents coincide with the onsets of G
two) and C (one).

The interaction of accents in all four voices relates
significantly to the timespan and pitch-class patterns of the
individual voices. Strong accents occur concurrently in three
or more voices in mm. 5, 6, 8, 9, 10, 12, 13, 15, 16, 17, and
19. Of these, all but three coincide with the notated
downbeat. Additionally, strong accents seldom occur as
isolated events, but are often attacked simultaneously in two
voices. Such paired strong accents are evident, for example,
in m. 4 (S/A), m. 5 (S/B), m. 7 (S/T then A/B), m. 8 (A/T), m.
11 (S/B) and so forth. After m. 5, no more than a breve
passes without coincident strong accents in at least two
voices. This frequent pairing of accents, combined with the
many occurrences of three or more coincident accents,
contributes to the perception of an evenly accented texture.

Accented timepoints also help structure the pitch-class
content of this section. Of the ten strong three- and four-
voice concurrent accents in this section, eight emphasize
pitch classes A, C and E. The consistency of accented pitch-
class attacks in individual voices is thus reflected by the
coincidence of strong accents in the full texture.
Obrecht, Christe from *Missa L’homme armé*

This section is in *tempus imperfectus cum prolatione imperfecta*; the whole note represents the breve. It is a three-voice setting with no tenor CF. The analysis is provided in Example 5-8.

The analysis of the superius reveals that the melody is more conjunct than in the opening section, but with strong accents occurring less frequently. Occasionally there are successive primary accents, as in mm. 21 and 24. For the most part, however, the strong accents in this voice occur in isolation, separated by timespans longer than the breve. Many accented timepoints coincide with the weak divisions of the breve; however, three of the four strong cadences and both evaded cadences are attacked on the notated downbeat. Long rests after strong cadences in the superius result in two 2- and 3-measure altus-bassus duos.

In the opening Kyrie the voices emphasized pitch classes A, C and E. The same trait is evident in the Christe. Of the fifteen strongly accented timepoints in the superius, thirteen mark the attacks of A, C or E. Of the three evaded cadences, two are on pitch class A, the other on C.

The accent structure of the altus closely parallels that of the superius. Strong accents occasionally appear successively, but for the most part they occur in isolation, with several weakly accented attacks separating them.
Example 5-8. Analysis of Obrecht, Missa L'homme armé, Christe, mm. 20-44.
Example 5-8. (Continued.)
Cadences occur frequently; strong cadence attacks coincide with the downbeats of mm. 24, 31 and 44. Evaded cadences are found in mm. 27, 29, 35 and 39. However, weak accents or no attack at all coincides with eighteen of the twenty four notated downbeats in this section.

The primary accents in this voice again emphasize pitch classes A, C and E, although not as exclusively as in the opening Kyrie. Fifteen of the twenty one strong accents accrue to the attacks of those pitch classes. Of the evaded cadences, two of the three highlight A; the remaining one (m. 35) is on G. This emphasis, noted in both sections thus far, underscores the strong modal significance of those pitch classes.

The bassus melody has the same general characteristics as superius and altus in this section, with accented pitch attacks most often occurring in isolation and at irregularly spaced intervals. Of the seventeen such attacks, twelve occur on pitch class A alone.

At one point, Obrecht creates a metric pattern that produces a strong cadential accent. In m. 29 there is a contour-accented attack on A2 in the bassus. That pitch concludes an apparent tz pattern, but is not held for a full breve; neither do pitch and rest combined sum to a breve. Nevertheless, the arrival of A2 sounds like a strong cadence.

To understand this effect, one must begin with the anacrusis to m. 26 and follow the bassus to the cadence. As
Example 5-9 illustrates, the passage could be notated as a hemiola. In the first interpretation, the penultimate measure is shortened by one beat; in the second, the cadence attack coincides with the pulse at the end of phrase dominated by an iambic (\( \text{\textasciitilde} - \)) rhythm. In either interpretation, the A2 half-


![Musical notation example](image)

note plus the following rest equal the pulse unit established by the previous three measures. Since this satisfies the conditions for a strong cadence, the attack of A2 takes both a contour accent and a cadential accent, and is notated in the analysis with the symbol, \( \text{\textasciitilde} \).

Despite the numerous strong accents interspersed among the individual parts in this passage, they only coincide in all three voices at the final cadence. There are a number of two-voice coincidences, which fall on various parts of the
mensural division. However, many of the strong accents also occur in isolation, and many of the downbeats are only weakly accented.

Finally, we once again consider the subject of pitch-class consistency. Five of the nine two-voice accent coincidences emphasize pitch class A, C or E—in mm. 23, 24, 31, 33 and 34. The final cadence is a full-textured three-voice accent on the attacks of A2, A3 and A4. Obrecht is consistent in emphasizing these pitch classes both in individual voices and in the interaction of strong accents in the sections thus far analyzed.

Obrecht, Kyrie II from Missa L'homme armé

In the final section of Obrecht's work, as with Ockeghem's Kyrie, patterns of accent coincidence suggest a ternary formal design. The tenor picks up the CF where it left off in the first Kyrie; it completes the original tune with the second phrase of B followed by A'. The mensuration returns to tempus perfectus cum prolatione imperfecta ($\text{W} = \text{o}$).

The voice parts exhibit the same characteristics here as in the preceding two sections, as Example 5-10 illustrates. The superius is characterized by many durational and leap/contour accents. The phrases are long, meandering and irregular. They are marked off by strong cadences coinciding with the downbeats of mm. 50, 53, 59 and 65. Accented pitch
Example 5-10. Analysis of Obrecht, Missa L'homme armé, Kyrie II, mm. 45-65.
Example 5-10. (Continued.)
attacks occasionally appear in succession (e.g., mm. 45-46, 49, 58 and 60); generally, though, they occur in isolation, separated by several unaccented pitch attacks.

Strong accents often coincide with notated downbeats in the superius. As in Kyrie I, these support the pulse suggested by the notated mensuration. For instance, accents in the first phrase occur fairly consistently on downbeats from mm. 48-53. In the second phrase (mm. 55-59), strong accents reinforce the downbeats in all but m. 57. The final phrase (mm. 60-65) is somewhat less consistent in this regard; however, of the seven strong accents in this phrase, four occur on notated downbeats. Thus, accents in the complete superius line reinforce the beginnings of notated breves.

Strong accents in the superius continue to emphasize the same few pitch classes. Of the twenty five strongly accented timepoints, fifteen occur on attacks of A, C or E. Pitch classes G and D are given more prominence in this section as well.

The altus line in Kyrie II is characterized by a preponderance of leap and durational accents. Strong cadences occur on the downbeats of mm. 50, 53 and 65, creating three phrases of different lengths. Evaded cadences are found in mm. 55, 59 and 60. Strong accents frequently occur in successive pairs, as in mm. 47-48, 51, 52-53, 54 and so forth. They coincide with notated downbeats in only nine of twenty
one measures; in none of the three phrases do strong accents coincide with successive downbeats.

If, however, one dovetails the second phrase with the end of the first phrase and the beginning of the third (mm. 50-54), a pattern does emerge. Here, strong accents coincide with four of five notated downbeats, and appear to support a breve pulse. The framing of this consistent middle section by less consistent outer sections suggests an ABA formal design for this voice part.

The pitch-class coherence of the preceding two sections continues in the altus. Twenty two of the twenty five strong accents occur on the attacks of A, C or E. Likewise, the bassus highlights those pitch classes in twenty two of thirty one strong attacks.

The distribution of strong accents with regard to downbeats in the bassus resembles that found in both the superius and altus. Like the two upper parts, this voice has clearly-defined phrases—mm. 45-55, 56-63 and 64-65. The cadence in m. 63 corresponds to the cadence in the CF voice. For the greater part of the first two phrases, strong accents coincide with notated downbeats (ten of thirteen). Indeed, in mm. 45-57, never are two successive downbeats unaccented. As in the superius, this contributes to a sense of timespan organization in which strong accents synchronize with the beginnings of breves in the notated mensuration.
In mm. 58-62, the situation is reversed. None of the strong accents in this passage coincides with a downbeat. They are spread at irregular intervals, sometimes occurring successively in twos (m. 61) or threes (mm. 58 and 62-63). In this way, strong accent distribution in the second half of the bassus melody conflicts with that of the first half. In contrast to the ABA design inherent in the accent structure of the altus, here it is AB. These contrasting designs help determine how the accents of the individual parts interact in the whole.

Let us consider, then, the interaction of accents in the Christe. In mm. 49-50 there is a double-leading-tone cadence. The superius and tenor have the cantizans and tenorizans respectively. Accompanying the 7-6 suspension in the superius is a 4-3 suspension in the altus. Both voices resolve up in m. 50, where combined cadential-durational accent accrues to the attacks of those pitches.

Patterns of accent coincidence in this section resemble those in Kyrie I. That is, strong accents seldom occur in isolation, but are often attacked simultaneously in two or more voices. This contrasts with the Christe, in which accents frequently occurred in isolation. Coincident accents in three or four voices occur both on and off the notated downbeat. Although they are more evenly spaced than those in

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9 Recall discussion on pp. 97-98 of the preceding chapter.
the Christe, they do not support the mensural pulse as strongly as they did in Kyrie I.

Obrecht continues the emphasis on pitch classes A, C and E in this movement. Of the eleven instances of three- and four-voice coincidence, ten highlight those pitch classes. The pitch-class coherence imparted by accents in individual lines and by coincident accents in the full texture is surely not accidental. By accenting the attacks of these pitch classes, Obrecht clearly establishes the Aeolian mode.

Let us conclude our discussion of Obrecht's Kyrie by summarizing the principal characteristics of accent interaction in each section. The first Kyrie exhibited a prominence of paired accents, but also had several three- and four-voice coincidences at evenly-spaced intervals. The final cadence omitted the tenor. By contrast, the Christe was more seamless, with coincident accents occurring more weakly and irregularly. The only full-voiced coincident accent in that section occurred at the final cadence. The second Kyrie saw a return to paired accents and more evenly spaced coincident accents. Like the first Kyrie, the final pitch of the CF was not attacked at the final cadence. These elements created contrast between the outer sections and the inner, and suggested an ABA' form.

Despite these contrasts, the coherence of the movement is ensured by elements of consistency among the three sections. All have several instances of unaccented downbeats, as well as
coincident accents on weak parts of the breve. The result of this common trait is a fluid texture in which irregularity of accent occurrence contrasts with regularity. The conflict between accentual periodicity and irregularity in one or more individual voice parts of a section is echoed in the patterns created by coincident accents in the full texture. The Kyrie sections reflect the elements of regularity, the CF-free Christe section the elements of irregularity. In this manner the sections reinforce the Kyrie's ternary form.

Finally, unity in Obrecht's Kyrie is also provided by the emphasis on particular pitch classes. The consistent stress of A, C and E by strongly accented attacks in the individual voice parts, and at points of coincident strong accents solidly grounds the work in the Aeolian mode. As the analysis revealed in Ockeghem's Kyrie, the ABA formal contrast is unified by patterns of pitch-class consistency.

La Rue, Kyrie I from Missa L'homme armé II

La Rue's Missa L'homme armé II is a canon Mass with a long-note CF that migrates between altus and tenor.\(^\text{10}\) The canon at the fifth (diapente) involves the superius dux and

\(^{10}\) At the time of this study, only the manuscript version of the edition for this mass was available. I am grateful to Nigel St. John Davison of Bristol University for making available a copy of his transcription before its publication (which is forthcoming) in Pierre de la Rue, Opera Omnia, Corpus Mensurabilis Musicae 97 (American Institute of Musicology: Hänssler-Verlag).
bassus comes in the Kyrie. The tenor has the CF in the opening section of the movement; it presents the A section of L'homme armé, omitting the final fifth-leap. The mensuration for this section is *tempus perfectus cum prolatione imperfecta*. The breve is represented by a dotted whole note in the transcription. The scribe's text underlay is more complete in this Kyrie than in the preceding two.

Example 5-11 provides the analysis of the first section of La Rue's Kyrie, and reveals three phrases in the superius clearly defined by strong cadence attacks in mm. 5, 10 and 12. The melody is dominated by conjunct motion with clearly articulated high and low points, emphasized by contour or leap accents. Strong accents occur successively in mm. 2, 4 and 5, but are otherwise separated throughout by unaccented pitch attacks. With the exception of mm. 3, 6 and 7, accented pitch attacks coincide with the downbeat. This gives the superius a strongly defined pulse coinciding with that of the notated mensuration. Strong accents highlight the attacks of certain pitch classes in this Kyrie--G, A, C and D; the attack of B⁴ is accented once as well.

The altus voice is, in some ways, similarly structured in this movement. It is predominantly conjunct, and accents generally occur in isolation rather than in succession. The only exceptions are in m. 12, and on the final three pitch

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11 Recall the rules for analysis of canonic parts in Chapter III, pp. 51-54.
Example 5-11. Analysis of La Rue, Missa L'homme armé II,
Kyrie I, mm. 1-12.
attacks, where a contour accent on the antepenultimate attack is followed by durational accent on the penult, then by combined leap-durational-cadential accent on the attack of the final D4. Cadence timepoints are clearly articulated, and divide the altus melody into two phrases.

In contrast to the superius, only six of the twelve notated downbeats coincide with strongly accented timepoints in the melody. Only in mm. 10-12 do they occur on successive downbeats. However, intervening strong accents in those measures diminish the effect of a supported mensural pulse.

Concerning pitch class consistency, the altus again exhibits elements of similarity and contrast with the superius. For the first 9 measures, only the attacks of pitch classes D, F and G are supported by strong accents. In the last three measures, however, the attacks of C5, A4 and B4 are also strongly emphasized. These accents weaken slightly the pitch classes emphasized in the first eight measures of the movement.

Since the bassus is the comes in the superius-bassus canon, the same observations made for the upper voice apply here. However, some differences arise despite the canonic procedure. For instance, where there were three phrases in the superius, there are only two in this lower voice. This occurs because the bassus D3 in m. 11--the pitch corresponding to the superius cadential A4 in m. 10--breaks the canon. D3
is durationally accented only, and the cadence in the bassus is postponed until the attack of G2 in the final measure.

The analysis reveals how the canon at the fifth results in a second difference between the dux and comes. Although the bassus, like the superius, consistently emphasizes certain pitch classes, these pcs are slightly different from those in the upper voice (a natural consequence of the canon). In the superius, the onsets of pitch classes G, A, C and D were frequently supported by strong accents; in the bassus, the corresponding attacks of C, D, F and G are most frequently accented. Combined with observations made on the altus, the analysis exposes for us an overall pattern of pitch-class consistency; emphasis is spread evenly among the attacks of pitch classes G, A, C, D and F.

The analysis again reveals clearly how the accents interact and coincide in this movement. Accents sometimes occur in isolation (e.g., altus F4 and superius G4 in m. 2, superius D4 and D5 in m. 3, and so forth); more frequently, though, they coincide. In particular, coincident strong accents in three or four voices occur in mm. 1, 2, 5, 8, 10, 11 and 12. With the exceptions of the tenor G4 in m. 3 and again in m. 6, six of these seven coincident accents support CF pitches whose attacks were originally emphasized. That is, coincident accents seem to be governed by the accent structure of the cantus prius factus.
Moreover, all downbeats are emphasized by strong accents in at least one voice. This gives the movement a strong, regular pulse coinciding with that of the notated mensuration. The breve pulse supported by coincident accents in three and four voices thus mirrors that found in the canonic voices. Additionally, all concurrent three- and four-voice accents in this section coincide with downbeats, and occur at regularly spaced intervals (every two to three breves).

Similarly, pitch-class patterns established by concurrent accents support those noted in the individual voices. Of the seven timepoints with strong coincident accents, four emphasize G, one C, one D and one F. Accents in individual voices emphasized these same pitch classes. Moreover, the A section of the CF used in this opening Kyrie has its most strongly accented timepoints on the attacks of pitch classes G, C and D. In this respect, the analysis shows how patterns of accent coincidence and the accent structures of the individual voices highlight all the pitch classes emphasized by the accent structure of the CF.

La Rue, Christe from Missa L'homme armé II

Example 5-12 presents the analysis of the four-voice Christe section of La Rue’s Kyrie. Here, the complete B section of the CF migrates to the altus voice. Text underlay is again principally that of the scribe. The principal
Example 5-12. Analysis of La Rue, Missa L'homme armé II, Christe, mm. 13-42.
Example 5-12. (Continued.)
exception is in the tenor, mm. 28-35, where the text is provided editorially. The mensuration is *tempus imperfectus cum prolatione imperfecta* (|=J =O).

The analysis shows that, although still principally characterized by conjunct motion, the canonic voices have more consecutive accents than in the first section. Examples occur in the superius in mm. 15, 22, 28-29 and 33. Phrases in the superius are clearly defined by strong cadence attacks (mm. 17, 25, 31 and 39); in the bassus cadences occur in mm. 21, 29, 35 and 39.

In contrast to the support of the notated downbeat noted in Kyrie I, the voices here suggest a pulse coinciding with the weak mensural division. All phrases begin on the weak half of the breve. Similarly, except for the final cadence, all cadential attacks coincide with the upbeat, as do many of the accents within the phrases. Strong accents in these voices generally do not coincide with the downbeat in this section. In the superius, this happens only in mm. 29, 33 and 39; in the bassus, it occurs in mm. 33, 37 and 39.

Pitch-class patterns in the canonic voices of the Christe parallel those observed in the opening section. Although the superius cadences on F4, strong accents in that voice coincide principally with pitch classes G, D and A. In the bassus, therefore, the onsets of C, G and D are emphasized. Since the canon simply stops in m. 39, D3 becomes the cadential pitch for the bassus.
Some aspects of the tenor's accent structure are similar to those of the superius and bassus. Strong accents frequently occur in succession, as in mm. 13-17, 24-25, 34, 36 and 40. Like the other two voices, the tenor is characterized in this movement by principally conjunct motion. Phrases are clearly defined by strong cadences in mm. 21, 37 and 41. Strong accents most frequently correspond to the attacks of pitch classes G, C and D.

The accent structure of the altus in Kyrie I contrasted somewhat with that of the canonic voices; so it is with the tenor in this section. Whereas strong accents in the superius and bassus in the Christe synchronize with the notated upbeats, accented timepoints in the tenor more frequently coincide with the downbeat. This is so in mm. 13, 15, 17, 21, 23, 25, 29, 33, 34, 36, 40 and 41. Thus, the tenor suggests a conflicting pulse.

The analysis shows that the accent patterns in the non-CF voices of the Christe parallel those found in the opening section. That is, the pattern revealed in the canonic voices contrasts with the patterns found in the other added voice. Coincident accents in three or more voices in this section resemble some of the tendencies noted in Kyrie I, and contrast with others. For instance, here accents in one voice frequently occur in isolation, less often coincidentally (e.g., superius m. 22, bassus m. 26, tenor m. 36). The opposite trend was revealed in the opening section.
Concurrent accents in that section occurred frequently; in the Christe, there are fewer accents farther apart.

Coincident strong accents in three or four voices occur in mm. 17, 21, 25, 27, 31 and 33. All but the last one coincide with the upbeat, an emphasis that contrasts with the downbeat emphasis found in Kyrie I. However, here as in that opening section, three- and four-voice accent coincidence clearly supports the pulse suggested by the canonic voices. Moreover, the tenor's four accented attacks on upbeats all contribute to timepoints with coincident strong accents, and help to affirm the upbeat pulse.

Although less frequent, coincident accents in the Christe are similar to Kyrie I in an important way—they occur at regularly-spaced intervals. With the exception of the two-breve span from the upbeat of m. 25 to the upbeat of m. 27, the intervals between such accented timepoints in this movement span four breves of the mensuration. Since all these timepoints—except in m. 27—have a strong cadential accent in at least one voice, there is a strong sense of four-breve phrasing up to m. 31. (The canonic voices have strong coincident accents four breves later in m. 35, but the final cadence in those voices occurs on the downbeat of m. 39, three-and-one-half breves later.)

Consideration of the pitch classes at timepoints with three or four coincident accents shows us more similarities with Kyrie I. Prominent pitch classes are C, G and D. In the
first section, coincident accents emphasized the attacks of C, G, D and F. Whereas the onset of pitch class G was most frequently emphasized in Kyrie I, the Christe section more often highlights the attack of pitch class C at timepoints with coincident strong accents. Furthermore, the analysis shows once again that pitch-class structures in the added voices closely follow the CF. G, D and A feature conspicuously in the cantus prius factus, as well as in the three added voices.

La Rue, Kyrie II from Missa L'homme armé II

The second Kyrie in this movement returns to tempus perfectus cum prolatione imperfecta; the dotted whole note represents the breve in the transcription. The CF returns to the tenor, which presents the A' phrase of L'homme armé. Text underlay is principally La Rue's.

The analysis in Example 5-13 shows elements of similarity with the first section. The canonic voices are characterized by conjunct motion. Strong accents generally occur in isolation rather than concurrently. Superius and bassus both have three phrases, each ending with strong cadences. Moreover, strong accents in these voices once again coincide often with the notated downbeat (e.g., superius, mm. 42-46, bassus mm. 43-47). Strong accents in the canonic voices again support a pulse coinciding with the notated breve.
Example 5-13. Analysis of La Rue, Missa L’homme armé II, Kyrie II, mm. 42-59.
Example 5-13. (Continued.)
Treatment of the altus in this section is substantially different from the opening Kyrie. Although it is again governed by conjunct motion, it is different in two important ways. First, the strong accents occur principally in isolation, and seldom consecutively (e.g., in mm. 54, 56 and 57). In Kyrie I, there were often two or three successive strong accents in this voice. Second, the strong accents here often coincide with the notated downbeat, whereas they more often coincided with the upbeat in Kyrie I. Thus, the altus here has the same characteristics as the non-canonic tenor of the Christe. Consequently, it conforms to, rather than differs from the patterns of the canonic voices in Kyrie II.

With regard to pitch classes, the analysis reveals a different story. The pitch classes most commonly initiated at accented timepoints in the dux include G, A, C and D. Accents in the comes commonly occur at the onsets of C, D, F and G. These patterns are consistent with the first two sections of the movement. In the altus however, there is no such consistency. The seven diatonic pitch classes are all highlighted by accented attacks. The voice cadences on B3. This gives a third above the tenor, a curious ending since contemporary counterpoint treatises explicitly state that ending on a perfect consonance is an inviolable rule.\textsuperscript{12} The

lack of pitch-class coherence in this voice contrasts with the high degree of consistency found in all voices elsewhere in the Kyrie.

Patterns of accent coincidence in this section exhibit characteristics of both preceding sections. As in Kyrie I, a strong accent in one voice generally occurs concurrently with a strong accent in at least one other voice; they are found in isolation less often. Furthermore, coincident strong accents generally coincide with the notated downbeat in Kyrie II, and thus support the pulse suggested by superius and bassus. As in the Christe section, however, these accented timepoints occur less frequently, generally with longer timespans between them. The exceptions are mm. 42-43 and 55-56.

Finally, the pitch-class patterns established by coincident strong accents in the first two sections of La Rue's Kyrie continue here. Of the seven occurrences of three- and four-voice coincident accents, three emphasize the onset of G (mm. 42, 46, 51 and 58), three initiate attacks highlighting C (mm. 43, and 47), and one coincides with an attack on D (m. 56).

Overall, then, analysis of the La Rue Kyrie does not reveal the clear contrasting formal design of the same movements by Ockeghem and Obrecht. Working against elements of contrast are elements of homogeneity. These include the similarity of individual lines, which are characterized by
conjunct motion, clearly defined cadences, and consistent pitch-class emphasis in all three sections.

Some elements of contrast, however, suggest a ternary form for this Kyrie. The pulse supported by the individual voices, and reinforced by coincident strong accents coincides with the notated perfect-mensuration downbeat in the Kyrie sections. By contrast, the same elements in the Christe create a pulse coinciding with its imperfect-mensuration upbeat. Similarly, despite the homogeneity of pitch classes in this movement, the analysis suggests an ABA form by revealing most emphasis on G in Kyrie I and Kyrie II, and on C in the Christe.

The factors discussed above combine to create a Kyrie exemplifying both homogeneity and subtle contrast. These elements are clearly revealed by the analysis, and allow us to see how La Rue creates a movement characterized by uniformity, but with enough diversity to reflect the form inherent in the text.

Josquin, Kyrie I from Missa L'homme armé super voces musicales

The analyses of the Kyries set by Ockeghem, Obrecht and La Rue have revealed different methods of formal organization with respect to both individual melodic lines and the coincidence of strong accents. All three pieces reflect, with varying degrees of subtlety and clarity, the ternary form inherent both in the Kyrie text and in the cantus prius
factus. The same design is apparent in the same movements of both Josquin's L'homme armé Masses.

The Kyrie of Missa L'homme armé super voces musicales has a tenor CF in long notes, with the original tune embellished slightly. For convenience and consistency, this study shows the CF tune unfolding with the first occurrence of each pitch in correct successive order. Pitches following an original CF member are considered embellishments of the cantus prius factus until the next quoted CF pitch appears. These embellishments are analyzed according to the rules provided in Chapter III, and are placed in square brackets to distinguish them from the original CF notes. This provision avoids having to speculate about composers' concepts of structural versus embellishing roles in CF elaboration.

For instance, in Example 5-14--the analysis of Kyrie I--the CF is in the tenor, beginning on C3 in m. 6. The opening A phrase of L'homme armé is presented without the final fifth-leap. Embellishment of the tune occurs in mm. 11-12, 16 and 17-18. In mm. 8-12, the descent from F3-C3 in the first phrase is extended by a repetition of the last two

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14 In this mass by Josquin, the phrase "super voces musicales" means that the CF begins on successively higher pitches. Over the course of the whole mass, the CF moves from C in the Kyrie to D in the Gloria, E in the Credo, F in the Sanctus, G in the first Agnus Dei, and A in the second Agnus Dei.
Example 5-14. (Continued.)
pitches, D3 and C3. Both pitches span a full breve, and so durational accent accrues to the attacks of those pitches. In mm. 14-15, the final fifth-descent begins with the step G3-F3; this step is repeated in m. 16, with a durational accent on the attack of the second F3. Similarly, the final step of the tune (D3-C3) is repeated twice in mm. 17-18. The first instance of C3 here is shown with the symbol $\text{J}$ to reflect its role as the final pitch in the original CF tune. Combined durational-cadential accent accrues to the attack of C3 in m. 18, since it is the final pitch in that voice.

There are two remaining general observations to make before discussing issues in the analysis. First, the mensuration in this movement is tempus perfectus cum prolacione imperfecta. The dotted double-whole note ($\text{CJ}^\text{•}$) represents the breve in the transcription. Second, text underlay in this Kyrie is complicated by the fact that the editor uses Petrucci's first edition. The Venetian printer, over whom Josquin had no control, casually and imprecisely added the text. Nevertheless, we show the printer's underlay in order to remain consistent with previous examples.

The CF tune is imitated pervasively by the other voices. Some timepoints in these voices sound like cadences, by analogy to the cadence at the corresponding parts in the CF. Josquin typically evades these cadences by various means. For example, in m. 5, D4 concludes the first phrase of L'homme

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15 Smijers in Werken, p. XIII.
armed in the superius. However, it is brief, and it is connected to A4 following a breath rest, so it is an evaded cadence. The same argument supports the reading of an evaded cadence on the bassus D3 in m. 4—it is rhythmically brief, and is followed immediately by a leap to A3.

Investigation of the accent structure of the individual voices reveals patterns found in the preceding three Kyries. For instance, the superius is characterized by predominantly stepwise motion. Strong accents frequently occur successively in groups of two or three, with several unaccented pitch attacks separating the groups. The two strong accents in m. 3 are followed by several unaccented attacks before three successive leap accents occur in mm. 5-6. More weak accents ensue until the consecutive contour-accented attack of A4 and durationally-accented attack of G4 in m. 9. Accented timepoints do occur occasionally in isolation, as for example in mm. 12 (C5), 13 (E4), and 15 (D4).

Strong accents in this voice part generally do not coincide with the notated downbeat. Exceptions are mm. 3, 8, 9, 11 and 18. Nor are the strong accents regularly spaced. Similarly, the superius has only one strong cadence attack before the onset of the final pitch in m. 18. All other cadences are evaded. Although most cadence attacks occur on downbeats (the only exception is in m. 16), they are irregularly spread throughout the section, and so do not support a pulse synchronous with the downbeat.
As was the case with accent structure, patterns of pitch class in the superius resemble those observed in some of the Kyries discussed earlier. Here, twelve of eighteen strong accents coincide with the attacks of pitch classes D and A.

The accent structure of the altus has elements of both similarity and contrast with the superius. Like the upper voice, the altus is primarily conjunct, and has many evaded cadences. However, in contrast with the superius, strong accents often coincide with the notated downbeat. This is the case in mm. 1, 3, 8, 9, 11, 13 and 15-18. The frequency of such coincidences suggests that this voice strongly supports a pulse coinciding with the beginning of the notated breve.

For example, consider the first nine measures, where strongly accented downbeats are rare. The altus begins on the downbeat of m. 1 with a durationally-accented attack on D4. Two breves later, the onset of A3 is contour-accented. Coinciding with the downbeats of the next two measures are evaded paradigmatic cadences. Although weakly accented, they have, at their attacks, the potential to be strongly accented cadential timepoints. Because of this, they maintain—or at least suggest—a pulse synchronous with the mensural downbeats. This pulse is then reinforced by the frequent accented downbeats from mm. 8-18.

Another point of departure from the superius is found in the distribution of strong accents. In the upper voice we noted that strong accents seldom occurred in isolation. The
opposite pattern emerges in the analysis of the altus--strong accents frequently occur in isolation. Indeed, there are twelve such occurrences in this voice, compared to three in the superius.

Our final point of comparison between these voices brings us to pitch-class considerations. Strong accents in the superius coincided principally with the attacks of certain pitch classes--D, G and A--in Kyrie I. Here the same pattern may be observed. Of the twenty four primary accents in this voice part, eight initiate attacks on D; of the remaining sixteen, five coincide with attacks on A, four on C, three on G, three on F and one on E. Thus, strong accents in the altus emphatically emphasize pitch class D and, to a lesser extent, A.

The accent pattern in the predominantly conjunct bassus of this Kyrie has characteristics of both upper voices. As in the superius, strong cadences are rare; evaded cadences occur in mm. 4 and 11. Furthermore, strong accents are frequently found successively (e.g., mm. 1-2, 5, 7-8, 11-13, 14, 15 and 17-18), less commonly in isolation (e.g., mm. 3, 4, 7, 9 and 10). Like the altus, however, those accents often coincide with notated downbeats; such is the case in mm. 1, 2, 5, 7, 8, 9, 12, 13, 17 and 18. Although less evenly spaced than those in the altus, these coincident points also support a notated downbeat pulse.
Consistency of pitch class at accented timepoints is evident in the bassus. Of the twenty strong accents in this voice part, most occur on the attacks of pitch classes G (seven) and A (six). This conflicts somewhat with the superius and altus, where attacks on D and A were most frequent.

We noted in the movements by Obrecht and La Rue that rhythmic and pitch-class patterns generated by individual voices were similar to patterns created by strong accent coincidence in three or four voices. The analysis reveals the same situation in Josquin's Kyrie.

Accents frequently occur in isolation in the four-voice texture. Generally, a strong accent in one voice is immediately followed by a strong accent in another voice. For instance, in m. 3, a leap-durational accent in the superius is immediately followed by a contour accent in the altus. Similarly, the leap accent on the attack of A3 in the altus, m. 6, comes immediately after a leap-duration accent in the superius. Many other similar instances may be found throughout the section.

All timepoints where three and four voices have concurrent strong accents coincide with notated downbeats. Indeed, at least one strong accent coincides with almost every notated downbeat in this section. The exceptions are mm. 4, 6, 10 and 14. Points of three- or four-voice coincidence occur on the downbeats of mm. 8, 9, 11, 13 and 18. The entry
of the CF in m. 7 initiates the complete four-voice texture in this movement. Beginning in m. 8, then, we see that coincident strong accents imply the presence of a downbeat-synchronized pulse in the superius and bassus. (Coincident evaded cadences in the altus and bassus in m. 4, and in the altus and superius in mm. 5 and 7 also occur on the downbeat, and presage the stronger occurrences from m. 8 onwards. This is especially so in mm. 5 and 7, where the evaded cadence attacks coincide with strong accents in the bassus, and tenor and bassus respectively.)

Although the distribution of accents with regard to the notated mensuration in the individual voices is mirrored by the distribution of coincident strong accents in the polyphonic texture, it seems, at first glance, that pitch-class structures are not. However, closer scrutiny does not bear out this impression. Pitch classes D, A and to a certain extent G, were emphasized by accented attacks in the individual voices. Of the five instances of concurrent strong accents in three or four voices, the first emphasizes pitch classes B♭, D and F; the second highlights F, A and C, the third D, F and A, the fourth G, B♭ and D, and the last one A, C and E. Thus, our analysis reveals that pitch classes D, F and A occur most frequently at these timepoints, and that this section does exhibit pitch-class consistency in the individual voices as well as at points of coincident strong accents.
Josquin, Christe from *Missa L'homme armé super voces musicales*

This portion of the movement is set in the mensuration *tempus imperfectus cum prolacione imperfecta*; in the Smijers transcription, a double-whole note represents the breve. Text underlay has the same authenticity problem as in Kyrie I. The B section of the CF tune is presented in the opening measures (20-28) by the altus, so that voice is analyzed according to the CF structure for those measures. In m. 29 the tenor resumes the role of CF voice for the remainder of the Christe. In this manner, Josquin presents the B section twice, first in the altus in one mode and diminution, then in the tenor in another mode and augmentation.

The analysis of the superius melody in Example 5-15 reveals a distinctly different treatment from that found in the first section. For instance, there are no evaded cadences here. All cadences attacks are strongly accented, as in mm. 21, 29, 40, 43, 47 and 59. Of these six cadence attacks, three coincide with the notated downbeat, and three do not. The general pattern of accent distribution also contrasts with the superius of Kyrie I. In that opening section, strong accents frequently occurred successively, seldom in isolation. Here, successive strong accents occur in only five places--
Example 5-15. Analysis of Josquin, Missa L'homme armé super voces musicales, Christe, mm. 20-63.
Example 5-15. (Continued.)
Example 5-15. (Continued.)
mm. 31-32, 37, 46-47, 50 and 56-59. Of these five instances, all but the one in m. 37 mark the beginnings or endings of phrases. More commonly, strong accents in this voice part occur in isolation.

One pattern in the superius of this section parallels Kyrie I. In general, strong accents do not coincide with downbeats. There are thirty seven measures in which pitches are attacked in the Christe; in twenty six of those measures, either weakly accented attacks or no attack at all coincides with the downbeat. Strong accents more commonly coincide with weaker parts of the mensuration; however, because of their placement on different mensural divisions, the accent structure of this voice does not support a pulse.

The final topic for consideration in the superius of this Christe section is pitch class consistency. Unlike Kyrie I, where the attacks of pitch classes D, G and A were most commonly strongly accented, no consistency is evident here. All seven diatonic pitch classes are highlighted at least twice, but no more than six times, by strong accents.

Recalling that the altus presents L'homme armé for the first nine measures of the Christe, we may move ahead to m. 29 to begin our investigation of accent structure in that voice. The analysis reveals marked contrasts between the altus melody in this section and in Kyrie I. Cadences occur infrequently, but cadential attacks are strongly accented. Additionally, strong accents do not coincide with the notated downbeat for
most of the melody. (This trend is reversed in the final phrase only; strong accents coincide with every downbeat in mm. 54-61, and support a strong pulse in those measures.) Finally, the analysis shows that pitch-class coherence is not as strong here as in the opening section. Strong accents accrue to the attacks of all seven diatonic pitch classes at least twice in the section. In this respect, the altus closely resembles the superius in the Christe.

The differences notwithstanding, there are some similarities between the altus parts in the first two sections. For instance, strong accents tend to occur in isolation rather than in immediate succession. In fact, after the opening CF section of the altus, there are no successive strong accents until the final phrase in mm. 54-62. Moreover, in some passages, uniform timespans often occur between strong accents, but on the weak half of the breve rather than on the downbeat. Example 5-16 illustrates. The contour-accented

Example 5-16. Josquin, Missa L'homme armé super voces musicales, Kyrie, altus mm. 30-37.
attack on F4 in m. 31 is followed one breve later by a
durational accent; one breve after this we hear a combined
leap-durational accent. The consistent timespans between
these accented timepoints creates a pattern analogous to a
pulse-pattern that coincides with the weak division of the
tempus. The symbol ▶ above the notes shows the initiating
timepoints for this pulse analog, which persists through m.
37.

Like the superius and altus in this section, the bassus
has elements of both similarity and contrast with respect to
Kyrie I. However, contrasting elements dominated the upper
voices, while similarities abound in the bassus. Melodic
motion is primarily conjunct. Successive strong accents occur
more commonly than isolated ones, as in mm. 20, 24, 25-26, 32-
33, 35, 36-39 and so forth. Pitch-class continuity is evident
in this voice as strong accents coincide primarily with
attacks on A, C, E and G.

Despite these similarities, phrasing and the distribution
of strong accents in the bassus provide powerful tools for
creating contrast as the Christe unfolds. The bassus has six
phrases, all bound by clear beginnings and cadences. In the
first two phrases (mm. 20-23 and 24-29), strong accents
frequently coincide with downbeats. In the third phrase,
however (mm. 30-38), many of the strong accents occur
concurrently with the weak half of the notated breve. This
could support a pulse coinciding with the division at the tempus level of mensuration.

The fourth phrase (mm. 41-43) has three strong accents--A2 in m. 41, F3 in m. 42, C3 in m. 43. The first two coincide with the weak half of the division at the level of prolatione. The fifth phrase (mm. 44-46) is a sequential repetition of the fourth beginning on the same prolatione division. This phrase is extended so that the cadential attack occurs on the downbeat of m. 47. This leads to the final phrase (mm. 50-62), in which the pulse again synchronizes with the notated downbeats. This phrase consists primarily of strongly accented pitch attacks; of the ten attacks, nine are so accented, and all nine coincide with the downbeat. The analysis shows us that, although strong accents occur at regular breve timespans throughout most of the section, the bassus shifts the beginnings of those timespans to different parts of the mensuration. This conflicts with Kyrie I, where strong accents in that voice part synchronized primarily with the downbeat.

Once again we turn our attention to the interaction of strong accents in the full texture. The analysis reveals elements of contrast with Kyrie I. In that opening section, most downbeats were emphasized by at least one strongly accented pitch attack. In this section, many downbeats have no strong accents, as in mm. 21, 25, 28, 31, 33, 34 and so forth. Strong accents do occur in isolation here, but they
are also frequently paired with an accent in another voice.
(See, for example, superius and bassus in m. 20, superius and altus in m. 21 and again in m. 23, superius and bassus in m. 25, altus and bassus in m. 26, superius and altus in m. 27 and so on.)

There are eight instances of three- or four-voice coincident strong accents—mm. 29, 33, 35, 43, 47, 50, 56 and 59. Two (mm. 33 and 43) occur on weak mensural divisions; the rest coincide with the downbeat. These coincident timepoints are spread throughout the section. For the most part, they do not occur frequently or regularly enough to establish a pulse. However, the fact that most of them synchronize with the notated downbeat suggests that they might support a regular pulse occurring at those timepoints.

Now we shall consider the element of pitch class to see whether its patterns also contrast with the opening section. Of the six coincident strong accents, the first highlights A and E. Similarly, the second emphasizes G, B and D, the third C and E, the fourth A, C, and E, the fifth E, G and B, and the final one D, F and A. Clearly, although A and E are emphasized three times, no pitch class dominates. Thus, the pitch-class consistency evident in Kyrie I gives way to more even distribution in the Christe.

Measures 28-29 provide us a good example of how the listener’s perception of accent is manipulated. The altus cadences on B3 in m. 28. That B3 is heard in the full texture
as the first half of a tenorizans paradigm beneath the 7-6 cantizans suspension in the superius. When the tenor enters on C4 in m. 29, it does so on an accented member of the CF. This voice entry in the tenor—not the altus—supports the superius' cadence, and the altus must wait for the beginning of its next phrase for the resolution of its implied tenorizans. Thus Josquin preserves the accent structure of the cantus prius factus, not transcending that structure by adding a texturally-determined cadence event.

Josquin, Kyrie II from Missa L'homme armé super voces musicales

The analysis of the Christe revealed some points of similarity with the opening Kyrie; however, it uncovers more elements of contrast, especially with regard to accent distribution, frequency of strong cadences, and consistency of pitch class at strongly accented timepoints in individual lines.

Example 5-17 presents the analysis of the final section of the Kyrie from Josquin's Missa L'homme armé super voces musicales. In this segment of the piece, the bassus presents the A' phrase of the CF from mm. 65-71; consequently, it is analyzed according to the rules for CF analysis. The tenor also enters with the A' phrase of the cantus in m. 67, so that for a brief span of time there is a double CF. The phrase is
Example 5-17. Analysis of Josquin, Missa L'homme armé super voces musicales, Kyrie II, mm. 64-89.
Example 5-17. (Continued.)
extended in mm. 79-85 of the tenor by the repetition of the final fifth-descent. The mensuration is tempus perfectus cum prolatione imperfecta; as in Kyrie I, the breve is represented in the transcription by the dotted double-whole note (\( \text{\textfrac{3}{4}} = \text{\textfrac{3}{2}} \)).

Text underlay here follows the editorial pattern noted in the previous sections.

The accent structure of the superius melody resembles that of the superius in Kyrie I. It is characterized by primarily conjunct motion. No strong cadential accent appears before m. 82 (a combined cadential-contour accent on A3), but there are evaded cadences in m. 70 (on D4) and m. 73 (on A4). Primary accents occur in isolation, especially in the opening measures, but they also frequently occur successively as in mm. 70-71, 72 and 77-79 and 81-82.

Strong accents in this voice part coincide with the notated downbeat in fourteen of twenty five measures. In the first half of the section, they tend to be irregularly spaced. Thus, they do not strongly support a pulse in this first half. However, after m. 76, accents on downbeats occur more frequently and consistently. For the latter half of Kyrie II, then, strong accents in the superius are articulated at more regular timespans, whose beginnings coincide with the notated downbeat. This is especially true in mm. 83-88, where strong accents occur on every downbeat except one (m. 87).\(^\text{16}\)

\(^{16}\) Even here, however, one might hear an accent on D4, because there is a descending sequence in m. 86. The sequence begins on A4, and is transposed down a third to begin on F4. If
Strong accents in the superius here emphasize the attacks of some pitch classes more than others. In particular, D, A and C are highlighted; of thirty four strongly accented timepoints, twenty one occur on attacks of D, A or C (seven each). Pitch-class coherence—especially the emphasis on D and A—is the only characteristic that remains consistent in the superius throughout all three sections of this Kyrie.

The altus of Kyrie II proceeds primarily in conjunct motion. Accents sometimes occur in isolation, but also often successively (e.g., mm. 67-68, 70-71, 75, 79, 80 and 85-87). This contrasts with both preceding sections, where most strong accents occurred in isolation. There are more strong cadences in this part than in the first two sections. However, they occur principally in the first half—in mm. 66, 69 and 72; after this point there are no strong cadence attacks in the altus until the final pitch in m. 88.

Strong accents in this voice part synchronize with the downbeat in mm. 66, 67, 69-73, and 75. Six of those timepoints end or begin phrases. The altus thus has a strong downbeat emphasis in Kyrie II, a characteristic that contrasts with the upbeat emphasis of that voice in the Christe and recalls the downbeat emphasis in Kyrie I. In mm. 76-88, however, strong accents in the altus coincide with the notated downbeat in only four measures. This is a direct reversal of

the attack on D4 is heard as the beginning of another statement of the sequence, then it will be strongly accented.
the superius’ pattern of accent distribution in the section. Despite the fact that neither of the two upper voices maintains a structure in which strong accents consistently synchronize with the notated downbeat, the two voices together do so.

Turning to the topic of pitch class, the analysis reveals an emphasis on D, G, A and C. Of the thirty six strong accents, sixteen mark the onsets of pitch classes D and G (eight each), fourteen of A and C (seven each). This aspect of Kyrie II contrasts with the Christe, but recalls Kyrie I.

Accentual characteristics of the bassus must be discussed before turning to questions of accent interaction. Since the bassus presents the CF to m. 71, our analysis begins in m. 72. As in the preceding sections, successive accents frequently occur in the bassus. A glance at the analysis quickly reveals much sequence and repetition in this voice part. These passages are of varying lengths, and so create timespans.

For instance, in mm. 74-75, the original statement and the repetition both span a breve plus one semibreve. As Example 5-18 illustrates, the rhythmic-intervallic patterning in the sequence creates a timespan which can be divided into four semibreves. This results in a temporary tempus imperfectus cum prolatione imperfecta. The subsequent ORIG REP patterns in mm. 77-78 and 79-80 imply the same mensuration, but as alla breve. This is because, as Example 5-18 suggests, those patterns are effectively a diminution by
half of the pattern in the preceding ORIG REP statement (mm. 74-75). In the remainder of this section, strong accents in the bassus primarily coincide with the notated downbeat, and thus confirm the notated mensuration.

Example 5-18. Josquin, Missa L'homme armé super voces musicales, Kyrie, bassus, mm. 74-80.

Pitch-class coherence is the final issue to consider for this voice part. Again, we begin in m. 72, after the CF tune. There are twenty one strong accents in the bassus from m. 72 on; most coincide with attacks on pitch classes G (7) and A (5). Pitch classes D and C, which were prominent in the preceding two sections, are emphasized by strongly accented attacks three times each. Thus, although slightly different from the Christe and Kyrie I, Kyrie II is nevertheless consistent in its emphasis of certain pitch classes.
Having made several observations on the rhythmic and pitch-class patterns in the individual voices of this Kyrie section, we are now ready to consider the interaction of accents. Some characteristics of strong accent interaction in this section parallel those evident in the first two sections. For instance, strong accents coincide with most downbeats in Kyrie II; only in mm. 68, 76 and 80 do we find weak accents on the downbeat in all voices.

The distribution of strong accents in this section recalls patterns in both the Christe and Kyrie I. A strong accent in one voice frequently coincides with one strong accent in another; this pairing of accents was noted in the Christe. (See, for example, superius-altus, m. 65; altus-bassus, mm. 67 and 68; superius-altus m. 70 and so forth). As in Kyrie I, however, emphasized pitch attacks often occur as isolated events in the full texture. Moreover, they frequently follow coincident attacks in two or more voices. Such is the case in mm. 67, where a strong accent marks the onset of the superius C in immediately after coincident strong accents in altus, tenor and bassus. Similar instances may be noted in mm. 68, 69, 70, 72, 73, and so forth.

Unlike either of the preceding sections, coincident strong accents in three or four voices occur frequently and regularly in Kyrie II; we find them in mm. 66, 67, 71, 72, 73, 75, 77, 79, 85, and 88. All but two occur on the notated downbeat. Let us recall briefly that strong accents in the
superius coincided with the downbeat in the second half of this section, while those in the altus did the same in the first half. Patterns of accent interaction revealed by the analysis show that, although strong accents do not consistently synchronize with the downbeat in any individual voice part, timepoints with coincident strong accents do so resolutely.

This section's emphasis on the notated downbeat contrasts with the Christe section (many unaccented downbeats in the polyphonic texture), but is analogous to the pattern noted in Kyrie I (strong accents coincide with most downbeats). The same pattern of similarity and contrast is evident in the treatment of pitch classes. In this section, coincident strong accents most commonly occur on the attacks of D, C and A. Pitch classes D, F and A were most emphasized in Kyrie I, but no such pattern was manifest in the Christe.

Overall, then, pitch-class consistency and patterns of accented downbeats or upbeats created by coincident strong accents in this Kyrie contribute to the perception of an ABA design. The form is obscured somewhat in the voices because many of the elements are similar from section to section. This means that an ABA structure, though implicit, is not made explicit in the individual parts. However, the interaction of strong accents clarifies the ternary design of the movement.

Our final observation on this Kyrie concerns the relationship of the CF accent structure to accent coincidence
in the full texture. One pattern remains consistent among all three sections—accented pitch attacks in the *cantus prius factus* often mark points of coincident strong accents in three or four voices. This is especially clear in the Christe and Kyrie II sections. Our analysis revealed the same relationship between the CF and accented timepoints in the other three Kyries. For Josquin, as for the other composers, the accent structure of the CF appears to play an important role in determining the accent structures of the added parts, and in the interaction of accents among those parts.

This role is manifest in two ways. First, it often determines which timepoints will be strongly marked by coincident strong accents in three or four voices. By marking these points in this manner, the composer draws attention to the "structural" CF pitches. These strong members of the *cantus prius factus* thus become both producer and product of strongly accented timepoints in polyphonic whole. Second, these same accented CF pitches are often reinforced by accents on the attacks of corresponding pitch classes in both individual voices and at points of accent coincidence. These two facets of CF composition help to unify the works by organically linking the pre-compositional material with the completed product.
Josquin, Kyrie I from Missa L'homme armé sexti toni

Having confirmed that the Kyrie of Missa L'homme armé super voces musicales follows the patterns of formal design and accent interaction found in the first three Kyries, we now come to the final piece in this chapter. As we shall see, those same patterns are also apparent in the Kyrie of Missa L'homme armé sexti toni.¹⁷

Josquin sets the altus below the tenor in this movement, and this setting is reflected by the STAB voicing in Example 5-19. The pervasive imitation on L'homme armé in tenor, altus and bassus results in a similar accent structure for each voice. Clearest is the bassus which has no embellishment of the original. The altus has an embellishing lower neighbour (F3 neighbour to G3) in m. 3, shown in square brackets in the analysis.

The migrating CF tune is shown with arrows in the analysis, as it was in Example 5-15. The mensuration for this section is tempus perfectus cum prolacione imperfecta, represented in the transcription by a 3/4 meter signature; the breve is represented by a dotted double-whole note. Text underlay in this Kyrie is again complicated by the fact that

¹⁷ The source for this Kyrie is Josquin des Prez, Missa L'homme armé sexti toni, in Josquin des Prez, Collected Works Missen V, edited by A. Snijers (Amsterdam: Vereneging voor Nederlandse Muziekgeschiedenis, 1931), 109-111.
Example 5-19. (Continued.)
the editor uses Petrucci's first edition as his source.\textsuperscript{18} Again, we still show the printer's underlay in order to remain consistent with previous examples.

Before addressing details of the added voices in this movement, two passages in the tenor line merit discussion. The tenor is the principal CF voice in this movement. It presents the CF tune in a straightforward manner to m. 8. However, instead of the anticipated descending fifth-leap following the leap up to C4 from F3, Josquin embellishes the original with an interpolated falling-third, rising-second, rising-second. The passage is reproduced in Example 5-20; the analysis shows the embellishment in square brackets. Josquin returns to the unadorned CF in mm. 11-14. From the attack of Example 5-20. Comparison of \textit{L'homme armé} phrase with Josquin, \textit{Missa L'homme armé sexti toni}, Kyrie, tenor mm. 8-10.

\begin{center}
\includegraphics[width=\textwidth]{example5_20.png}
\end{center}

C4 in m. 14 to its cadence in m. 17, the tenor appears to abandon the CF, joining the other voices in a free four-voice

\begin{footnote}{\textsuperscript{18} Recall the discussion on p. 193 above.}\end{footnote}
The source for the tenor's sequence in these measures—falling-third, rising-second, rising-second—is the embellishment it introduced in mm. 9-10. Measures 14-17 are nothing more than a sequential embellishment of the falling C-B♭-A-G-F phrase of L'homme armé. We point out this particular embellishing motive, because it becomes an important source of motivic material for Josquin in later movements.

Now let us turn our attention to the analysis of the superius. Conjunct motion governs this voice, which is characterized by three phrases with clearly demarcated beginnings and endings. The phrases are fairly uniform in length, spanning five, five and six breves respectively. In the first two phrases, strong accents always occur successively in groups of two or three. Many of these coincide with the downbeat, as in m. 2 (F4), m. 5 (C4), m. 6 (C4), m. 8 (A4), m. 9 (G4) and m. 11 (E4). In the final phrase, however (mm. 12-17), strong accents occur only in isolation, and with the exception of the first and last pitch attacks, they do not synchronize with the downbeat.

The superius lacks consistency in regard to the pitch classes emphasized by strongly accented attacks. Of the seventeen such attacks, four mark the onset of pitch class C. Pitch classes F, A and B♭ are each similarly emphasized three times; strong accents on the attack of E occur twice, and on D and G once. The three strong cadences do not aid our
investigation, because they occur on three different pitch classes—C, E and F.

The altus differs from the superius in substantial ways. To begin with, after m. 4 it has no strong cadences until the end of the section. Although primarily conjunct, the altus melody lacks the clear phrasing of the superius. Moreover, the accents throughout this part tend to occur in isolation, with irregular timespans and as few as one or as many as seven weakly accented attacks in between. Moreover, strong accents synchronize with only three downbeats in the entire section—in mm. 1 and 3 (the beginning, on the CF tune) and m. 17 (the final cadential attack). This contrasts with the opening phrases of the superius, and contributes to the high degree of rhythmic elasticity for this voice part.

The analysis reveals that the altus also differs from the upper voice in the matter of pitch-class consistency. Whereas strong accents in the superius do not emphasize any specific pitch or pitches, in this voice they do. Excluding the CF opening in mm. 1-4, the altus has seventeen strongly accented timpoints. Of the seventeen, eight—including the final cadence—coincide with attacks on C. The remainder are distributed more evenly among the remaining diatonic pitch classes.

The first Kyrie section presents an ambiguous repeated-note cadence in the altus, mm. 16-17. Normally, cadential accent accrues to attack of the first of two repeated pitches.
The spurious underlay shows the syllable -i- underneath the first instance of C4, the syllable -son articulating the repeat of that pitch. Syllabification of eleison into four parts results in an accent structure of \( \textbf{\textit{e - le - i - son}} \).

Whether or not the syllable -i- is correctly placed, it is clear that the repeated pitch requires a change of syllable to -son. Thus, the second attack of C4 coincides with a change to a strong text syllable, so the cadential accent accrues to that timepoint.

Having discussed our analytical concerns as they pertain to the superius and altus, let us consider the same issues in the bassus. This voice part, too, is dominated by conjunct motion. Beginning in m. 8 (after the CF's opening in mm. 4-7), we note that accents generally occur in isolation and at irregular intervals. This characteristic is similar to that noted in the altus. Also similar to the altus is the lack of cadences; after m. 7, there are no cadence attacks until m. 17.

With regard to distribution of strong accents in regard to the notated breve, the bassus again most closely resembles the altus in this section—the majority of its strong accents do not coincide with notated downbeats. Only the accents on the attacks of F2 in m. 8 and C3 in m. 9 do so. This means that no strong accents in any voice synchronize with the notated downbeat from mm. 12 on. We shall see that this has
important ramifications for our understanding of accent interaction.

Finally, consideration of pitch-class issues in the bassus once again reveals a similarity to the altus. Of the twelve strong accents in mm. 8-17, all but three occur on the attacks of F (five) and C (three). Consistent pitch-class patterns in the two lower voices in this section thus contrast with the more arbitrary distribution in the superius.

Now that we have a clear understanding of the issues of accent distribution, phrasing, and pitch class in all voices of Kyrie I, we may examine the interaction of accents in the polyphonic texture. Strong accents in the individual voices are occasionally paired, but often occur in isolation. These isolated accents are generally articulated in rapid succession. For instance, in m. 12, durational accent accrues to the attack of E4 in the superius, and is immediately followed by a leap accent in the altus. In m. 14, successive accents in the tenor are followed at once by a leap accent on the attack of F2 in the bassus, then a contour accent in the altus, then coincident strong accents in the altus and bassus.

Coincident strong accents in three voices occur at only five timepoints in this section, and they reflect the irregular distribution of the individual voice parts. Those in mm. 5, 12 and 13 coincide with weak divisions of the notated breve; the ones in mm. 8 and 17 synchronize with downbeats. There is no regular timespan patterning between
coincident-accented timepoints. Moreover, no strong accent in any voice coincides with the downbeats of mm. 3, 10, 13, 14, 15 or 16. Thus, in mm. 13-16 particularly, patterns of accent coincidence mirror the de-emphasized downbeat noted in the individual voices.

The analysis of individual melodies revealed consistent pitch-class emphasis in altus and bassus. These patterns are also evident in the coincidence of strong accents. Three of the timepoints at which strong accents converge highlight F. Of the sixteen strong accents at these timepoints, seven mark the attack of that pitch class. Thus, our analysis again reveals that the interaction of accents in the polyphonic texture reflects downbeat-coincidence and pitch-class patterns of the individual voices.

Josquin, Christe from Missa L'homme armé sexti toni

The Christe portion of this movement exhibits the same properties. This section is composed on a double CF, using only the B section of L'homme armé in tenor and bassus. As Example 5-21 illustrates, the tenor twice presents the final phrase of the B section, the first time with an embellishing C4 in m. 29, the second time with three embellishing notes in mm. 39-40. The analysis in Example 5-22 shows these embellishments in brackets. After m. 42, the tenor breaks into free counterpoint. The bassus more simply presents the
entire B section of the *cantus prius factus*. The mensuration is *tempus imperfectus cum prolatione imperfecta*, transcribed as $\emptyset$ in the edition; the double-whole note represents the breve.


Tenor: 2 X

Bassus: 2 X

1 X

The analysis shows a preponderance of durational accents at the beginning of this section. In the superius, all strong durational accents coincide with the notated downbeat. From m. 24 until the end of the section the superius is rhythmically more animated, so there are fewer durational accents. Furthermore, accents in the superius occur principally as isolated events in mm. 24-28; the only exception is in mm. 41-42, where a contour accent is immediately followed by a durational accent.

In general, strong accents in this voice tend to coincide with the weak divisions of the breve, so that either weakly accented pitch attacks or no attack at all falls on the
Example 5-22. Analysis of Josquin, Missa L'homme armé sexti toni, Christe, mm. 19-52.
Example 5-22. (Continued.)
Example 5-22. (Continued.)
majority of downbeats. The accents are irregularly spaced except in the two sequences, from mm. 29-32 and mm. 42-48. In the first sequential pattern, reproduced in Example 5-23, the contour accents and internal rhythmic structure of the sequence create a pulse that spans six minimae. These may be heard in two groups of three, effectively creating tempus imperfectus cum prolatione perfecta; the mensuration signature for this section prescribes imperfect prolation.

Example 5-23. Josquin, Missa L'homme armé sexti toni, Christe, superius mm. 29-32.

Similarly, Example 5-24 illustrates one interpretation of meter created in the second sequence. The pattern begins in m. 42 on the durationally-accented attack of Bb4. The pulse again spans six minimae. However, unlike the previous sequence, internal rhythm-interval patterns establish a division of two-plus-two-plus-two minimis, creating a local tempus perfectus cum prolatione imperfecta mensuration.

Overall, then, the superius in the Christe is characterized by a lack of strong-accent emphasis on the beginning of the notated breve. This voice part thus contrasts with the superius of Kyrie I, in which strong accents coincided with the downbeat in the first half of the section, although not in the second half. Similarly, the analysis reveals contrast in the emphasis of certain pitch classes. In particular, strong accents coincide most commonly with attacks of pitch class F; there are six such events. Pitch classes C, E and G are also prominent, each being emphasized with accented onsets four times over the course of the section. The attacks on these four pitch classes make up eighteen of the twenty three strong accents in the superius.

The altus melody in the Christe has points of similarity and contrast with that of Kyrie I. For instance, it is
characterized by a predominance of conjunct motion. Also, in both sections no strong cadence appears until the end (mm. 48 and 51 in the Christe). As in that first section, then, the altus here lacks clear phrase beginnings and endings. However, it does not lack a pulse.

Strong accents throughout this part frequently occur both successively and in isolation. These accents coincide regularly with every second downbeat. Such is the case, for example, in mm. 19, 21, 23, 25, 27, 29, 31 and 33. No accent, either strong or weak, coincides with the intervening downbeats in mm. 20, 22, 24, 26, 28 and 32. This pattern supports a large-scale grouping of the altus part into two-breve units, and suggests modus imperfectus for this section. This mensuration is confirmed by the CF in bassus, mm. 21-27. As Example 5-25 illustrates, the perfect mensuration commonly

Example 5-25. Josquin, Missa L'homme arme sexti toni, Christe, CF in the bassus, mm. 21-27.
associated with *L’homme armé* gives way temporarily to imperfect. That change—clearly shown in the analysis by the strong accent symbols appearing at the beginning of every second measure—is manifest in altus as well.

In the matter of pitch-class, the altus voice in Kyrie I emphasized C. The same type of consistency is evident in that voice in the Christe. Here, nine strong accents on the attack of pitch class C and seven on G constitute sixteen of the total twenty six such attacks. Thus, contrast between the altus lines of the first two sections is found only in the distribution of strong accents in relation to the mensuration, and not in patterns of pitch classes.

Normally, our analysis does not include detailed discussion of a CF voice. However, two issues arise in the tenor of this section. First, its initial pitch in m. 19 (C4) is the anacrusis of the third phrase of section B in *L’homme armé*; that pitch attack is weakly accented in the *cantus prius factus*. However, our rules on beginning-accents in Chapter III state that primary accent accrues to the first pitch attack in a voice part for each movement or section. Consequently, the opening pitch attack of the tenor in this Christe is represented by the symbol Δ.

Also, the tenor abandons its CF role in favour of free counterpoint in m. 42. As a result, we must analyze it as an added voice from that point on. The tenor’s sequence in mm. 42–45 creates a timespan unit crossing six minimae. As
Example 5-26 illustrates, this pulse suggested by this sequential passage contradicts the one created by the concurrent sequence in the superius. These conflicting pulses contribute to the sense of a seamless polyphonic texture in these measures. Moreover, internal divisions in the tenor sequence could suggest either a duple or triple mensuration.

Example 5-26. Josquin, Missa L'homme armé sexti toni, Kyrie, superius and tenor, mm. 42-46.

as the example shows. After m. 45, no similar patterns are evident in the tenor.

Despite the brevity of this passage, certain pitch classes are highlighted more than others. Of the nine strong accents in mm. 42 beat 2-m. 50, four initiate attacks on C, two on G and two on F. Although we can not compare this pattern with the tenor of Kyrie I (because it is the CF in that section), we see that the tenor is consistent with the superius and altus in the Christe.
Patterns of accent interaction in the Christe are strikingly different from Kyrie I. Strong accents in this section are frequently paired (e.g., superius-tenor, m. 19; altus-tenor, m. 23; superius-tenor m. 25; bassus-tenor m. 27; altus-tenor m. 29; superius-tenor m. 34 and so forth). Those occurring in isolation are seldom successive. That is, whereas an isolated strong accent in one voice was frequently followed by a strong accent in a different voice in the first section, the same cannot be said for the Christe.

With regard to coincident strong accents in three and four voices, this section contrasts with Kyrie I. Coincident strong accents occur relatively infrequently here, but they all coincide with the notated downbeat (in mm. 19, 21, 23, 31, 36, 42 and 48). The first three support the strong two-breve pulse suggested by the altus at the beginning of the section. On the downbeats of mm. 25, 27 and 29, moreover, two of the three sounding voices have simultaneous strongly accented pitch attacks. This continues the pattern established in mm. 19-23, and brings us to the three-voice coincidence in m. 31. Thus, the analysis reveals how coincident strong accents in mm. 19-31 articulate the beginning of every second notated breve, and underscore the imperfect *modus* of the CF in the passage.

The two-breve timespan between simultaneous accent attacks is lost after m. 31; however, the remaining four coincident strong accents occur at spans of five, six and six
breves respectively. This suggests a continuation of a regular timespan patterning that emphasizes the notated downbeat. This pattern is less discernible than the opening, owing to the longer timespans between accented arrivals. The contrast of the two patterns in this section—close, regular occurrences versus more separated, less regular—suggests a two-part internal formal division.

The analysis for this section reveals the close dependence of coincident accent distribution on the CF. All four instances of concurrent strong accents in mm. 31-48 coincide with accented attacks on CF pitches in the bassus, as well as in the tenor (mm. 31, 35 and 42). The fact that these are the only accented attacks in the CF, and that strong accents in the added voices coincide at only these timepoints suggests a deliberate emphasis of those points by the composer. No similar emphasis was seen in the opening section of the Kyrie. Additionally, the two-breve span established by coincident strong accents in mm. 19-31 corresponds to the change in mensuration of the CF from perfect to imperfect. 19

Some aspects of the Christe resemble Kyrie I. For instance, the distribution of strong accents in the polyphonic texture frequently de-emphasizes the notated downbeat. Strong accents in at least one voice coincide with only twenty one of thirty three notated downbeats, that is, less than two-thirds. This reflects the same tendency of the individual voices in

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19 Recall the discussion and Example 5-25 on p. 233.
the Christe. Despite this fact, however, we noted above that
the regular timespans established at the opening suggest a
two-breve pulse, and that coincident strong accents in the
latter half of the section occur at fairly regular intervals.
In between those strongly accented timepoints, there is a high
degree of rhythmic elasticity. Thus, the distribution and
interaction of accents between Kyrie I and the Christe are
similarly disposed, but the effect is quite different.

The same similar-but-different patterns can be found in
this section with respect to accent interaction and
consistency of pitch-class. In the Christe, as in Kyrie I,
certain pitch classes are given more prominence at points of
coincident strong accents. This reflects the same pattern in
the accent structures of the individual voices, and would
normally suggest uniformity between the sections.

However, the specific pitch classes emphasized at
accented timepoints differs between the Christe and Kyrie I.
In the first section, F was primarily accented at points of
coincident strong accents. Here, F appears only once at such
a timepoint—in m. 23. Greater emphasis is given to pitch
classes G, C, Bb and E in the Christe. Accented attacks on G
occur at four points of coincidence, and on C, E and Bb at
three. Thus, the analysis reveals a pattern that was not seen
in the first four Mass movements: contrast is generated by
emphasis on specific pitch classes, and not by general
patterns of consistency or inconsistency of pitch class at
accented timepoints. This gives each section its own homogeneous pitch-class coherence, and provides formal contrast between sections.

Josquin, Kyrie II from Missa L'homme armé sexti toni

In the final Kyrie eleison of this movement, the CF returns to the tenor, which presents the A’ section of L’homme armé with repetition of the final fifth-descent. No embellishment occurs on the CF in this section. Again, only the first and last Kyrie and eleison are provided by the Petrucci edition. The remaining underlay is editorial. The mensuration is tempus perfectus cum prolatione imperfecta, so the dotted double-whole note represents the breve in the transcription.

Example 5-27 is the analysis of this section. The superius begins slowly, with strong durational accents coinciding with the downbeats of mm. 53 and 55-58. This reinforces the pulse suggested by the mensuration at the beginning. However, for the remainder of the section, strong accents in this voice seldom coincide with the downbeat. Exceptions occur in m. 64, and at the end in mm. 70, 72 and 73. Accents in general occur in isolation rather than in succession, with the exceptions occurring in the same measures as the accented downbeats--at the beginning, end and in
Example 5-27. Analysis of Josquin, Missa L'homme armé sexti toni, Kyrie II, mm. 53-74.
Example 5-27. (Continued.)
mm. 63-64; no strong cadences occur in this voice part until the end, in m. 73.

Repetition and sequence again play a role in the perception of the mensuration for the superius. For instance, the repetition in mm. 58-60 is reproduced in Example 5-28. All pitch attacks in this passage are weakly accented. Still, the repeated motive creates a passage spanning two semibreves. This suggests a temporary tempus imperfectus cum prolatione imperfecta here, a supposition reinforced by the rhythm of the motive. This passage appears immediately after the long-note opening that so strongly reinforces the notated downbeat, and thus creates immediate rhythmic contrast in the superius.

Example 5-28. Josquin, Missa L'homme armé sexti toni, Kyrie, superius, mm. 58-60.

A second sequence in mm. 65-69 creates a segment spanning one breve, but whose beginning does not synchronize with the notated downbeat. It begins on the second minim of the mensuration, and spans six minimae. The octave leap to A4
imparts a strong accent to the attack of that pitch, and the sequence begins. There are no other strongly accented pitch attacks in the original. Successive statements of the sequence suggest the presence of a pulse that does not correspond to the beginning of the notated breve, as shown in Example 5-29. Additionally, the mensural organization of the sequential rhythms into two groups of three semiminims (\textit{tempus imperfectus cum prolatione perfecta}) contrasts with the notated mensuration's division into three groups of two. The altus and bassus also execute sequences in these measures. The interaction of the superius with these voices will be discussed shortly.

Before moving on to observations on the altus, let us consider the pitch classes emphasized by strong accents in the superius. Of the twenty strongly accented timepoints in this voice, five coincide with attacks on F, four on G and C, three on A, and two each on D and E. This even distribution closely parallels that of Kyrie I, and contrasts with the greater
consistency noted in the Christe, where the majority of strong
accents coincided with attacks of pitch classes F, C, E and G.

The altus is the only voice to begin in a rhythmically
animated fashion in Kyrie II. Strong accents are generally
widely separated, and there is an even mixture of successive
and isolated occurrences of strong accents. Strong accents
coincide with the notated downbeat in fewer than half the
measures in which the altus articulates notes (eight of
twenty). This is consistent with the superius in this
section, but contrasts with the altus of the Christe, where
strong accents regularly coincided with notated downbeats.

Strong accents in the altus generally do not mark regular
timespans. Although accents at the beginning briefly
synchronize with the downbeat, no other patterns emerge until
the sequence in mm. 65-70. The sequence here spans six
notated minimae; it may be gathered into two groups of three,
suggesting the mensuration *tempus imperfectus cum prolatione
perfecta*. The same mensuration is suggested by the concurrent
superius sequence, but beginning on a different minim in the
mensuration. The conflicting timespan articulations created
by the two voice parts help keep the sequence from sounding
mundane.

The analysis reveals that the altus also differs from the
upper voice in the matter of pitch-class consistency. The
altus has eighteen strongly accented timpoints; of the
eighteen, eight—including the final cadence—coincide with
attacks on C. The remainder are distributed more evenly among the remaining modal-diatonic pitch classes. This pattern closely parallels the altus part in Kyrie I, where eight of seventeen strong accents coincided with C. It also corresponds to the Christe, where C and G were the emphasized pitch classes in the altus.

The bassus of Kyrie II relinquishes its function as a CF voice, and assumes the role of added voice. The analysis reveals that the accent structure has many of the same patterns evident in Kyrie I. Conjunct motion predominates, and there are few strong cadences; there is one in m. 63 and another at the end (m. 73). Like the superius in this section, the bassus opens with successive durational accents synchronized with downbeats. After m. 58, however, accents occur in isolation until the sequential section. In this respect, the bassus melody again resembles that found in Kyrie I, where accents principally occurred in isolation.

The analysis also discloses an important difference between the bassus in the first and last sections. In Kyrie I, few strong accents coincided with the beginnings of notated breves. Here, the opposite pattern is evident; of the twenty strong accents, fourteen coincide with downbeats. (All strongly accented attacks in this voice part also coincided with downbeats in the Christe.) Most of these occur in mm. 53-57 and in the sequence of mm. 65-70. In this latter passage, the bassus follows the superius in parallel tenths;
however, the bassus also has a fourth-leap as the last gesture in the sequential motive, beneath a rest in the superius. This fourth-leap imparts a strong accent to the last minim of the sequence, which happens to coincide with the notated downbeat. Thus, sequences in the bassus, superius and altus emphasize the first, second and fourth minimae of the mensuration respectively in mm. 65-69. We will need to recall this fact in our discussion of accent interaction in the sequence.

Before discussing accent interaction, however, let us examine pitch-class coherence in the bassus of Kyrie II. Here, again, the analysis reveals a clear pattern. Of the twenty four strong accents in this voice part, seven coincide with attacks on F, six on C. No more than three are concurrent with attacks on D, Eb, G, A and Bb.

Our analysis revealed alluring facets of accent structure with regard to mensuration and pitch class in the individual voices of Josquin's Kyrie; it also uncovers interesting aspects of accent interaction. In the opening five measures, strong accents often coincide, usually on the downbeat, in two or more voices. Indeed, all five of these notated downbeats are reinforced by at least two coincident strong accents. Moreover, at least one strong accent coincides with every downbeat in this section, with the exception of m. 62.

After m. 57, strong accents often occur in isolation, but in rapid succession. For instance, the tenor leap from F3-C4
in m. 59 is followed immediately by a leap accent in the bassus, then a contour accent in the altus. Similarly, the leap accent on the attack of C4 in the superius, m. 60 precedes a leap accent on the attack of D3, and a contour accent on the beginning of F2 in m. 61. The texture created by the consecutive, isolated accents in these measures contrasts with that of the coincident accents in the opening measures of the section, contributing to the perception of a two-part form in Kyrie II.

Coincident strong accents occur only in the first and last five measures of the movement. They all coincide with notated downbeats, suggesting a pulse that corresponds to the beginning of the notated breve. From m. 58-69, no more than two coincident strong accents occur at any timepoint; most of these are in the sequence, from mm. 65-70.

We mentioned above that the bassus, altus and superius all have strong accents that emphasize different parts of the prolation in Kyrie II. A glance at the tenor line in mm. 65-70 reveals that successive new notes in the CF occur on yet another different minim—the third. Thus, the first, second, third and fourth minima of the notated mensuration all have some sort of distinction in the polyphonic texture. This imparts a rhythmic fluidity to the full-textured passage, despite the regularity created by the sequential patterns in each individual voice part.
We now come to the last topic for the last Kyrie—patterns of pitch class at strongly accented timepoints. The analysis reveals that, of the seven such timepoints, F is highlighted at five, and C at four. Moreover, strong accents coincide with the attack of either F or C at every one of these points. This gives the section a strong coherence in terms of pitch class. Furthermore, we noted emphasis on F in Kyrie I, while in the Christe section C, E, G and B♭ were most strongly represented.

The pitch-class patterns revealed above in the three sections of the sexti toni Kyrie point decidedly to an ABA form, with the first and third sections highlighting F, the middle section other pitch classes. Formal divisions created by patterns of accent distribution are less clear. The analysis showed different patterns of similarity and contrast between sections. For instance, the Christe and Kyrie II contained internal segments with and without regular timespan partitioning generated by coincident strong accents. The ternary form of the complete Kyrie is not as evident in these patterns of accent interaction as it was in the preceding four Kyries. However, the use of coincident timepoints to create sections within sections suggests smaller formal divisions not seen in those other Kyries. Also unique is the clear use of pitch-class emphasis as the principal distinguishing element between sections. Overall, these factors create an ABA form, with binary divisions within the individual sections.
General Observations

The analyses of the five Kyries above revealed patterns of accent distribution and pitch-class consistency created by strong accents in individual voice parts, and by the interaction of strong accents between those parts. Although the analysis reveals such patterns, it does not adequately depict them. Since our primary goal is to investigate timepoints with coincident strong accents, we need to simplify the analyses in order to expose more fully the patterns established by those points.

The next step in the study, therefore, is to simplify the analysis by extracting the strong accents from the renotated score. To do this requires rewriting the analysis without the weak accents. This does not mean that we devalue weak- or non-accented events. The removal of such events provides us with a more compact, simplified version of the analysis in
which we can see more clearly the interaction of all strongly accented, discrete pitch attacks.

Example 6-1 extracts the strong accents from Ockeghem's Kyrie I, and therefore represents a hearing of the primary accented timepoints in all voices of the section. A more lucid picture of strong accent distribution and coincident strong accents emerges in this representation. For instance, we can see clearly which measures contain many strong accents (e.g., mm. 3, 6, 8 9, 11 and 12), and which contain relatively few (e.g., mm. 5, 7 and 10).

Since the principal goal of this study is to investigate patterns created by timepoints with coincident strong accents, we may simplify the extraction further. In order to show only these timepoints, we may remove not only all weak-accented symbols from the analysis, but all strong accents where fewer than three attacks coincide. This step in the process extracts only events in which three or four voices simultaneously initiate strong accent-events. A strong accent-event (SAE) is any timepoint symbolized by any unshaded notehead, stemmed or unstemmed. The coincidence of three SAEs creates a full-textured accent, abbreviated FTA.

Another goal in this study is to examine the consistency of types of sonorities found at FTAs. This raises the question whether the fourth voice should be considered when there are coincident strong accents in three voices. For example, in a four-voiced texture there may be strong accents
Example 6-1. Ockeghem, Missa L'homme armé, Kyrie I extraction.
in the bassus, tenor and altus beneath a weak accent (or no
accent) in the superius. If the bassus-tenor interval were an
eightave, and the tenor-altus a third, the soprano could have
either a fifth or sixth above the altus. This would create,
in the first place, a $\frac{5}{4}$ or in the second instance, a $\frac{6}{5}$
relationship among the pitches attacked at the timepoint.
Alternatively, the superius might simply double one of the
lower voices, or even have a dissonant suspension. In all
cases, the fourth, unaccented or weakly accented pitch attack
plays an important role in our perception of the type of
sonority at the FTA.

Since any pitch sounding at a given timepoint contributes
to the perception of sonority in a three-voice FTA, let us
define guidelines for the notation of those attacks in the
extraction. There are three scenarios. First, a weak accent
coinciding with SAEs in three (or more) other voices is shown
in the analysis by the corresponding secondary accent symbol--
$\bullet$, $\triangle$, $\blacksquare$ or $\checkmark$. Second, a consonant pitch may be tied through
the FTA, and therefore have no coincident attack. Since the
presence of the pitch nevertheless affects the perception of
the sonority, it is shown as a weak accent in parentheses,
thus ($\bullet$). We use the shaded, unstemmed oval notehead
regardless of the accent that accrues to the beginning of the
pitch. Finally, a dissonant suspension in a FTA is also shown
in parentheses as ($\bullet$). Since we are investigating pitch-class
patterns as consonant structures, we consider the note of
resolution--not the suspension--in the identification of the sonority at such FTAs.

Before making the extracted analyses, one further condition must be stipulated: beginnings and endings of sections will be shown regardless of the number of coincident strong accents. We make this condition because we are searching for patterns generated by the distribution of coincident strong accents over a whole section or movement. In a section with an imitative beginning, for instance, strong accents may not coincide in three or four voices for several measures. Similarly, many Renaissance Mass movements end with successive voice exits. By limiting ourselves to timepoints with coincident strong accents in three or four voices, we risk missing some important information provided by single-voice beginnings and endings. Showing these points in the analysis gives us a context for comparison between movements, as well as a timespan context within which the FTAs function. Consequently, the following two conditions apply to our extractions.

First, a section may be initiated by as few as one isolated or as many as four simultaneous pitch attacks. The initial attack timepoint is shown in the analysis for all discrete sections of a movement. Thus, we identify in the extraction the initial accent for each section, whether it be articulated by the attack of one, two, three or four pitches. Second, the analysis shows final cadence attacks for all
voices in discrete sections of a movement. Specifically, we show cadential accent on the attack of the final pitch in each voice after the last FTA.

When all voices cadence simultaneously on a FTA, no analytic problems arise. However, with successive exits, primary accents do not necessarily accrue to all attacks concurrent with each voice's cadential pitch. Such cadential extensions are common in the Renaissance style. Example 6-2 illustrates how we shall deal with this specific problem.

The final FTA occurs in this movement on the downbeat of m. 33; afterwards, coincident strong accents occur in no more than two voices. Looking at the tenor, we see that its cadential pitch (D4, a repeat of the final pitch of the CF) is attacked in m. 34. Superius and bassus achieve their final pitches in m. 39, and the final pitch attack in the altus coincides with the downbeat of m. 41. In the extraction, we show the attacks of each of these cadential pitches, along with concurrent attacks in accompanying voices. Absence of a notated pitch means either a rest in the other voice part or parts, or the sustaining of a previously attacked cadential pitch.

Thus, the cadence in the tenor is accompanied by only one strong and one weak accent in altus and bassus respectively; the superius has a rest. The coincident cadence attacks in superius and bassus in m. 39 appear without accompanying pitches in the extraction because the altus has a rest, and
Example 6-2. Analysis of La Rue, Missa L'homme armé II, Christe, mm. 33-42 with accompanying extractions.
Example 6-2  (Continued.)

Extraction
the tenor is sustaining its cadential pitch through that
timepoint. Similarly, superius, tenor and bassus pitches are
all held through the altus part until its final cadential
attack. In this way, the analysis clearly shows the
successive exits, as well as the sonorities present at those
exits. We shall see that the rules for representing beginning
and ending attacks of sections has important ramifications for
the development of our accent profiles later on.

Ockeghem, Missa L'homme armé

Now that we have laid down our rules for extraction, let
us apply the technique to the pieces analyzed earlier. Each
section is shown proportionally—one bar line in the analysis
represents two breves of elapsed time. (The same scale is
used for all five Kyries.) The extractions allow us to
investigate more closely three characteristics, each of which
can contribute to the generation of formal design in the
movement. We employ the terms singly-weighted accent, doubly-
weighted accent and triply-weighted accent to refer to open
noteheads, stemmed open noteheads, and stemmed open long
respectively; weak-accent means any shaded notehead.

First, the proportional representation reveals how
coincidences of accents in several voices articulate spans of
time, and allows us to see more clearly the relative
regularity of FTAs in each section—the more regular the
recurrence of FTAs, the more regular are the timespan divisions of the movement. Also, we can determine relative strengths of coincident accent as revealed by the notational symbology. In particular, the more stemmed open noteheads there are at a given point in the analysis, the stronger the accent at that timepoint in the piece. Finally, the extractions provide a clear view of the pitch classes attacked at strongly accented timepoints. Investigation of this parameter reveals not only the distribution of emphasized pitch classes in a movement or section, but the intervallic relationship of those pitch classes.

Rather than discuss each movement section-by-section as we did in the larger analyses, let us consider each of the three topics mentioned above for a complete movement. This approach will allow us to observe immediately elements of similarity and contrast between sections.

Example 6-3 is the completed extraction of Ockeghem’s Kyrie. In the first section, three FTAs occur close together and at fairly even timespans in the opening measures. Afterwards, no FTAs appear until the final cadence in m. 13. In the Christe section, coincident strong accents occur more frequently. They are evenly spaced, occurring every measure or every second measure. In particular, the final three occur at two-breve timespans. Kyrie II has elements of both preceding sections. FTAs occur frequently, as in the Christe, but they are less regular than in that section. For instance,
Example 6-3. Extracted FTAs from Ockeghem, Missa L'homme armé, Kyrie.
there is only one between mm. 34 and 39; the remainder occur as pairs in close succession. Thus, FTA distribution does not reveal clear formal patterning in Ockeghem’s Kyrie.

The extraction reveals a similar lack of patterning in terms of relative strengths of accent. In Kyrie I, the accents are evenly weighted among the first three FTAs; however, at the final cadence in m. 13 we see a much stronger timepoint. This is evident in the notation, as all voices have simultaneous doubly-weighted or triply-weighted accents. The Christe also has a generally even distribution of accent weights among most of the FTAs. Measure 20 is conspicuous because of its two doubly-weighted accents (cadential-durational) on the attacks of C5 and C4. These suggest a climactic arrival in the middle of the section. That arrival is followed by less strongly accented FTAs until the final, strongest arrival at the cadences in m. 28. Finally, in Kyrie II we see a similar pattern. All timepoints with coincident strong accents are relatively evenly weighted, except those in m. 32 (two doubly-weighted accents), m. 33 (triply-weighted accent in the lowest voice) and m. 41 (final strong cadential attacks). As in the Christe, the extraction suggests a climactic point part way through the section, with strongest emphasis on the closing FTA.

Despite the unique characteristics of each section, some aspects of relative accent strength are common throughout the movement. For instance, all three sections begin with a
strong FTA--four singly-weighted accents in each. Furthermore, all three end with the strongest FTA in the section. Four simultaneous attacks are heard in all but two places (Christe, m. 18 and Kyrie II, m. 30). Moreover, in all but one instance (Christe, m. 26), strong accents support the lowest pitch in the texture.

We end our observations on Ockeghem’s Kyrie with a look at the general distribution of accented pitch classes. Of the four FTAs in Kyrie I, all have pitch classes G and D as members; B is also present in mm. 3 and 4. In the Christe, there is less exclusive emphasis on G and D. The pattern noted in Kyrie I returns in Kyrie II, as G and D again occur more often than any other pitch class at FTAs.

With the extractions, important pitch-class relationships emerge clearly. Our simplified representations allow us to see clearly the disposition of the consonances in the musical space at the strongest timepoints of the movement. In Kyrie I, for instance, all FTAs have pitch class G as their lowest member. Similarly, the lowest pitch classes at points of strong accent coincidence in Kyrie II commonly emphasize G; C, D and F each appear once in this role. By contrast, the lowest pitch classes at FTAs in the Christe vary more widely. G appears three times, B♭ twice, A once, B♮ once and C once.
Obrecht, Missa L'homme armé

We will investigate the same properties in Obrecht's Kyrie as in Ockeghem's—segmentation of each section into timespans articulated by coincident strong accents, the relative strengths of the FTAs and their distribution, and pitch-class patterns. Example 6-4 is the extraction of the Obrecht work.

Kyrie I begins imitatively, and no coincident strong accents in three or four voices occur until m. 5, at the entry of the bassus on A₂. After this point, FTAs occur more frequently, though irregularly. Moreover, they often occur in rapid succession as in mm. 5-6, 8-10, 12-13 and 15-17. The extraction reveals contrast between Kyrie I and the three-voice Christe. In this second section, coincident strong accents occur in quick succession in two places—mm. 23-25 (four) and mm. 29-35 (five). Otherwise, they are spread at irregular timespans throughout the section. In Kyrie II, FTAs occur more frequently, but no more regularly than in the Christe. Rather, like Kyrie I, coincident strong accents permeate the section, but tend to be grouped in quick succession with slightly longer spans between the groups.

The Obrecht extraction reveals a pattern of similarity and contrast not evident in Ockeghem's work. Here, a more even distribution of FTAs over the complete lengths of Kyrie I and Kyrie II contrasts with the more uneven structure of the
Example 6-4. Extracted FTAs from Obrecht, Missa L'homme armé, Kyrie.

(\textit{kyrie I})

(\textit{Christe - 3 vv.})

(\textit{Kyrie II})
Christe. For instance, there are eleven timepoints with coincident strong accents in both Kyrie I and Kyrie II. These are clearly spread evenly (if irregularly) over each section, with the only large gap occurring in Kyrie II, mm. 60-62. In the Christe, on the other hand, the FTAs occur in two distinct groups, with gaps before and after. The second gap covers a particularly long timespan (a little more than nine breves), after which comes the final cadence in the section. This characteristic of the movement suggests an ABA' formal design.

We can now turn to the topic of relative FTA strength to determine whether similar formal patterns are evident. In Kyrie I, we see several timepoints with coincident strong accents in all four voices—mm. 5, 8, 9, 13 and 19. Additionally, there are points with two or three doubly-weighted accents. The penultimate FTA, in m. 17, is weakest with three singly-weighted pitch attacks and one weak one. This data suggests a section saturated with FTAs of relatively equal strength. The arrival in m. 12 of three coincident doubly-weighted pitch attacks—including two cadential-durational—appears to be the most strongly accented timepoint other than the final cadence.

The Christe section, in contrast to Kyrie I, is structured more consistently. All FTAs in this section, excluding those in mm. 29 and 44, are made up of only two singly-weighted accents, with either a concurrent weak accent or no other accent at all. In m. 29 we see a doubly-weighted
accent on the attack of A3; the final cadential-durational accents coincide in m. 44 in all voices. In Kyrie II, there is a return to the less patterned distribution of FTAs. Here, doubly-weighted accents in two or more voices occur in mm. 50, 53, 63 and 65. As was the case with the timespan partitioning created by FTAs, the distribution of stronger and weaker points of accent coincidence in Obrecht’s Kyrie points to an ABA formal design.

The extraction reveals another pattern that is suggestive of a ternary structure for this movement. In Kyrie I and II, doubly-weighted accents frequently occur in the bassus part—the stems make this characteristic clear. In the Christe, however, there are only two doubly-weighted accents in the bassus, and they occur at the two strongest points—mm. 29 and 44. Generally, attacks of the lowest pitches take strong accents throughout this movement, as they did in Ockeghem’s Kyrie. Also similar to Ockeghem’s work is the fact that the last FTAs for each section are the strongest timepoints in the work.

Finally, let us consider pitch class properties in this movement. As was the case with the individual voice parts for Obrecht’s Kyrie, FTAs tend to emphasize pitch classes A, C and E. In particular, most FTAs have as their lowest pitch either A or E; such is the case in twenty six of the thirty two coincident strong accents. Moreover, the pitches at most of these points are arranged in a $\frac{5}{3}$ or $\frac{3}{5}$ intervallic relationship.
Only at the final cadence for each section, and in mm. 12, 15, 31, 53 and 56 do we find sonorities built only with open octaves and fifths. Consistency of pitch-class, and especially the emphasis on 5 sonorities with A as the lowest note (there are eleven), create for this movement a strong sense of harmonic stasis. Such stasis may be interpreted as a type of pitch-class centricity. However, let us move on to the remaining three Kyries before allowing ourselves any general hypotheses on pitch-class structure.

La Rue, Missa L'homme armé II

The extraction for La Rue's Kyrie is provided as Example 6-5. Again, we shall consider first the regularity of FTA occurrences over the span of each section. In Kyrie I, timepoints with coincident strong accents are spread randomly. Two occur in quick succession at the beginning, three at the end. In the middle (m. 5) is one isolated FTA. The Christe contrasts strongly with this opening section. Here, FTAs occur frequently and regularly, usually with at least a two-breve timespan between them. Kyrie II sees a return to a pattern similar to that noted in Kyrie I. FTAs take place at irregular intervals, with two in quick succession at the beginning and three at the end. In the middle of Kyrie II (mm. 46 and 51) there are two isolated timepoints with coincident strong accents in all four voices. The patterning
Example 6-5. Extracted FTAs from La Rue, Missa L'homme armé II, Kyrie.
of FTAs in this Kyrie thus clearly supports an ABA formal design.

Less clear in La Rue’s work is the relationship between form and relative strengths of FTAs. A close perusal of Example 6-5 reveals that timepoints with three- and four-voice coincident strong accents are mostly evenly weighted in all three sections. Specifically, most such points have one or two doubly-weighted pitch attacks coinciding with different combinations of singly-weighted or weak-accented attacks. (The most noticeable exception occurs in m. 34, where two single accents coincide with a weak accent. This passage was discussed in Example 6-2.)

Other elements of strong accent coincidence in this movement hinder our perception of form. For instance, in all three sections, one or more voices end after the final strong cadence. Moreover, strong accents occur in the lowest voice in all but one instance—m. 34. The only hint of form arising from the extraction comes from the placement of the final FTA for each section. In Kyries I and II, the final FTA is strongest. In the Christe, however, the final point of coincident strong accents in three voices (m. 33) is not the strongest FTA in the section. The similarity between the first and third sections and contrast with the middle implies an ABA design.

In fact, the distribution and weights of FTAs in this Kyrie are significant in terms of formal design. However,
this aspect of the work will only become clear when we take the final step in our analytic procedure. For the moment, then, let us move on to considerations of pitch class in La Rue's Kyrie.

Formal design arises clearly from pitch-class patterns in the movement. In Kyrie I and II, coincident strong accents emphasize G, which appears in three of the six FTAs in the former section, and in six of the seven in the latter. In all three instances in Kyrie I, and in four of the six in Kyrie II (mm. 42, 46, 51 and 58), G is the lowest pitch class in an open or 3 sonority. In the Christe, by contrast, emphasis is spread more evenly among the diatonic collection. More importantly, pitch class G never occurs as the lowest in a FTA. Pitch-class patterns thus clearly point to an ABA plan for the Christe.

Josquin, Missa L'homme armé super voces musicales

The extraction of the Kyrie from Missa L'homme armé super voces musicales is provided in Example 6-6. In Kyrie I, FTAs are centrally located and evenly distributed. This is especially noticeable in mm. 9, 11, and 13, where coincident strong accents in three voices coincide with the notated downbeat. By contrast, FTAs in the Christe are widely and irregularly spaced (except in mm. 56, 59 and 61). (The superius appears to missing from the final cadence. However,
Example 6-6. Extracted FTAs from Josquin, Missa L'homme armé super voces musicales, Kyrie.
that voice cadences on E4 in m. 59. E4 is then sustained through the remaining measures of the section.)

In Kyrie II, as in Kyrie I, FTAs are concentrated primarily in the middle measures. They are regularly spaced here, as they occur on the downbeats of mm. 71, 72, 73, 75, 77 and 79. The patterns established by the outer sections contrast with the Christe, and contribute to the perception of a ternary form for the movement.

The relative strengths of the combined accents at FTAs suggests the same formal design. In Kyrie I and II, most of these primary accents are singly-weighted; that is, they are either beginning, durational, cadential or leap/contour accents only. Occasionally, a doubly-weighted accent occurs in one of the voices, as in m. 9 of Kyrie I, and mm. 71-73 of Kyrie II. This suggests a slightly stronger accented timepoint or points at one place in each section. The final FTAs in these two sections create the strongest timepoints, with combined accents on all pitch attacks.

In the Christe we see evident contrast. Most FTAs have at least one doubly-weighted accent in one voice part. Some have two coincident doubly-weighted accents; the bassus of m. 28 has a combined duration-leap-cadential accent under a cadential-durational accent in the superius. This suggests a greater distinction between stronger and weaker FTAs in this section. Moreover, the final measures of this middle section have successive voice exits--superius in m. 59, bassus and
tenor on the downbeat of m. 62, altus on the third mensural division of m. 62. The strong final FTAs in Kyrie I and II contrast with the diminishing accentual pattern at the end of the Christe.

Despite these contrasting elements, there are threads of unity between the sections of this Kyrie. For instance, all begin with coincident single strong accents. Additionally, the lowest pitch of each FTA is normally strongly accented. The only exception is the B2 in m. 75. This is consistent not only within this particular piece, but with the three preceding Kyries.

Finally, the extraction reveals an inherent ABA formal design in the patterns of pitch classes emphasized by coincident strong accents. In Kyrie I and II, the diatonic pitch classes are spread fairly evenly among the FTAs. In the Christe, however, coincident strong attacks most often occur on pitch classes A, C and E. Of the nine FTAs in this section, six have strong accents on attacks of E, four on A, and four on C.

Josquin, Missa L'homme armé sexti toni

The last extraction is presented as Example 6-7. Elements of formal design and pitch-class patterning are also evident in this piece. The imitative opening of Kyrie I is followed by irregularly-spaced FTAs. After the initial
Example 6-7. Extracted FTAs from Josquin, Missa L'homme armé sexti toni, Kyrie.
attack, these coincident accents articulate successive spans of four-and-one-third breves, two-and-two-thirds breves, four-and-one-half breves, one-and-one-sixth breves (seven semibreves), and three-and-one-third breves. The Christe section begins with three evenly-spaced FTAs; however, in the remainder of this section coincident strong accents are widely and irregularly spaced. Similarly, Kyrie II begins with four evenly-spaced FTAs. No others occur until the final measures of the section, on the downbeats of mm. 60, 72 and 73. Thus, there are distinct patterns to each of the three individual sections; however, no overall formal design governs this element of the Kyrie.

By contrast to the distribution of FTAs over this movement, a ternary formal design is evident in the patterns created by relative strengths of timepoints. In Kyrie I and II, most FTAs appear evenly accented. In Kyrie I, there is only one doubly-weighted accent in any voice (excluding the final cadence)—the superius in m. 12. The penultimate FTA in m. 13 is weaker than the preceding one in m. 12. The extraction thus suggests a strongly accented timepoint late in the section; this is followed by a weaker accent prior to the final, strongest coincidence. In Kyrie II, the first four coincident strong accents are evenly weighted. The final three exhibit the same pattern seen in Kyrie I. The antepenultimate FTA is strongly accented; the penultimate is weaker, and precedes the final, strongest FTA in the section.
The extraction shows that relative combined accent strengths in the Christe are similar to those of Kyrie I and II. Elements of continuity between the sections include progressively stronger FTAs at the openings. Kyrie I has one strong accent at its initial attack point; the Christe has three and Kyrie II, four. Additionally, in all but the bassus of m. 23, the lowest pitch of each FTA is attacked with a strong accent.

However, unlike those outer sections, we see an element of contrast here. Whereas the "Kyrie eleison" sections had one strong FTA near the end, the "Christe eleison" generally alternates stronger and weaker points. Specifically, two weaker FTAs (mm. 19 and 21) are followed by a stronger one (m. 23). The next four are weaker (m. 31), then stronger (m. 36), then weaker (m. 42) and stronger (m. 47). The section ends weakly, with successive exits in the tenor and altus voices respectively. The contrast provided by relative combined accent strengths points to an ABA design for the movement.

Let us now consider pitch-class patterns to see if they also support that design. Kyrie I is characterized by emphasis on attacks of F; of the five FTAs in this section, three emphasize that pitch class. The Christe is notable for its lack of emphasis on F. Here there are seven timepoints marked by coincident strong accents. Of these seven, pitch class F occurs at only two; C and G are highlighted at four. Kyrie II also has seven FTAs. Pitch class F is again dominant
in this section; it has strongly accented attacks at five of the seven timepoints. Thus, the emphasis on pitch class F in the outer sections contrasts with the emphasis on G and C in the Christe. Once again, we have a model for ternary form in this parameter.

Kyrie Accent Profiles

The extractions and accompanying discussions provided above revealed different facets of formal and pitch-class patterning created by coincident strong accents in these Kyries. It is now possible to simplify the extractions further by representing the frequency and strength of FTAs with a graphic symbology called an accent profile. The profile provides us with a simple visual representation of the most strongly accented timepoints in each section of each Kyrie. This, in turn, allows us to see more clearly patterns and formal designs created by points of coincident strong accents.

Accent profiles are derived from the extractions in the following manner. First, they are vertically and horizontally proportional. The horizontal axis provides a consistent scale for representing the complete timespan of a section from the initial to the final pitch attack. In the accent profiles for the Kyries, one centimetre on the horizontal axis is equal to two breves of notated time, regardless of the mensuration.
The vertical axis shows the relative strengths of the FTAs at specific timepoints according to the following numerical formula. Let us take, as our basic unit of measurement, a single strong accent; we shall give all singly-weighted accent symbols a value of 1. Figure 6-1 shows the relative weights of all strong and weak accents. Thus, a FTA with four singly-weighted accent symbols has a combined accentual value of 4. Doubly-weighted accents have a value of 2, while the triply-weighted accent symbol has the maximum of 3. All pitch attacks symbolized by shaded noteheads have a value of 0.5, which is the minimum. At any FTA, the values for each notational symbol are added, and the sum is shown as a point determined by the vertical axis on a constant scale of 0.5 cm = 1. The points are then placed over the corresponding timepoint on the horizontal axis. Lines are drawn from the points to the horizontal axis to provide a clear visual representation of timespan segmentation, and the points are joined to each other to complete the accent profile.
Four pieces of information are added to each profile. Figured bass symbols indicate the type of sonority articulated at the strong timepoints. If there is no figured bass, then the sonority is open (i.e., octave, fifth or \( \frac{3}{2} \)). Pitch-class names beneath the profile identify the sounding bass note at each accented timepoint. A solid horizontal line following one of these note names signifies that the bass pitch is sustained after its final cadential attack. The symbol \( \checkmark \) above a FTA indicates that the timepoint is mensurally weak; otherwise, FTAs shown coincide with at the beginning of a mensural pulse. Finally, the plus sign (+) above a point reveals that at least one voice attacks a cadence pitch at the initiation of the event.

The top sloping lines in the profiles suggest gradual linear increases and decreases of accentual weight from point to point. However, this is not the case. The top line is put in simply to provide a more closed picture in order to facilitate comparisons between the different Kyries. They are not to be interpreted as representations of patterns of accentual increase and decrease across a movement.

Ockeghem, *Missa L’homme armé*

Figure 6-2 presents the accent profile for Ockeghem’s Kyrie. Several significant aspects of the movement are evident in this representation. Most noticeable is the strong
Figure 6-2. Accent profiles for Ockeghem, Missa L’homme armé, Kyrie.
accentual value of the final cadences; these are the most accented timepoints in each section. In Kyrie II, the weakest FTA immediately precedes the strong final cadence. Furthermore, the FTAs in each section are generally evenly weighted (excluding the final cadences).

The Christe and Kyrie II, despite their different shapes, have some common characteristics. In both, there is one strong point in the middle of the piece. The plus sign (+) above these points indicates that there is a cadence in at least one voice. In both sections, this is the first strongly supported cadence (i.e., the first cadence attack in one voice that coincides with strong attacks in at least two other voices).

Other, contrasting, aspects of the sections are also revealed by the accent profiles. We can see clearly the irregular timespan divisions in the Kyries, compared to the more even patterning of the Christe. The emphasis on the downbeat in the Kyrie becomes clear, compared to the greater frequency of upbeat FTAs in Kyrie II. Also clear is the emphasis on pitch classes G and D in the outer sections, compared to the more varied Christe. Moreover, we can see at a glance that all three sections begin and end on perfect consonances, but the internal strong timepoints all articulate 5 and 6 sonorities. This last pattern might suggest a strong inclination toward accented triadic structures in this music.
However, let us look at the accent profiles for the other pieces before making any global observations.

Obrecht, Missa L'homme armé

The profiles for Obrecht’s Kyrie are provided in Figure 6-3. Within this movement, we can see immediately the contrast in timespan partitioning between the Christe and the two Kyrie sections. In the outer sections, FTAs occur frequently but irregularly; the alternating longer and shorter timespans of Kyrie I (pointed out in the extraction) are evident here. Also manifest here are the most strongly accented timepoints in Kyrie I and II; these points support strong cadences in at least one voice, and coincide with the notated downbeat. In the Christe section, on the other hand, the FTAs are grouped together, but articulate fairly regular timespans within those groups. The strongest internal timepoint in that section does not support a strong cadence in any voice, and occurs on the weak mensural division.

The accent profiles for Obrecht’s Kyrie also provide us with a means for comparison of similar elements. Noticeable again are the strong final cadence arrivals. These timepoints strongly punctuate the ends of the sections. More striking, perhaps, is the emphasis on pitch class A in this Kyrie. Of the thirty four total FTAs over the Kyrie, twenty two are supported by pitch class A in the bass. This consistency of
Figure 6-3. Accent profiles for Obrecht, Missa L'homme armé, Kyrie.

(kyrie I)

(Christe-3vv.)

(kyrie II)
pitch-class and sonority at accented timepoints helps unify this movement. Such pitch-class unity is akin to the idea of tonal centricity, in which a piece of music is heard as rooted in a diatonic collection with a hierarchically superior tonic.

That is not to say we should consider this work as tonal; rather, the accent profile points out that the FTAs create a strong feeling of pitch class A as a unifying element in Obrecht's Kyrie. Thus, to avoid the Pandora's box of terminology that would be opened by calling this work tonal, we shall use the term modal centricity to describe its emphasis on pitch class A. This term has the added advantage of relating the work—clearly in the Aeolian mode—to modal theory.

Moreover, we can compare the consistency of pitch class in this Kyrie to that of Ockeghem. Whereas with Obrecht, modal centricity is a unifying device throughout the movement, we saw in Ockeghem's work that elements of pitch class are used both as a unifying device and to create formal contrast. In essence, then, Ockeghem divides the pitch-class space of his Kyrie into two components: modally centric and non-centric. The element of centricity in the two outer Kyries frames the non-centric middle section, contributing to the perception of an ABA design. For Obrecht, formal contrast is clearly evident in the reduced texture and the different FTA timespan partitioning of the Christe. This allows him to use a high degree of pitch-class consistency in the movement.
These elements are clearly represented by both the extractions and the accent profiles.

La Rue, *Missa L'homme armé II*

We now move on to the work of La Rue, to see how he treats FTA partitioning and pitch-class materials. Figure 6-4 is striking because of the clear similarity of Kyrie I and II, which contrast dramatically with the shape of the Christe. Two close FTAs mark the beginnings of the outer sections. These are followed by longer timespans (two in Kyrie I, three in Kyrie II) before three closer ones at the end. The penultimate vertical lines in the profiles mark the final FTA for each; these are the strongest points in the sections, and are preceded by relatively weak accents. The last vertical line in these sections represents the single-voice cadential extensions after the final FTAs. In the Christe, stronger and weaker FTAs alternate at regularly spaced intervals. This contrast is underscored by the emphasis on weak-beat articulations, compared to the downbeat emphasis in the Kyrie sections. The ABA design of La Rue's Kyrie is thus clearly represented by the FTA timespan partitioning of the accent profiles.

Elements of formal design in La Rue's work are also evident in his treatment of pitch classes at FTAs; his treatment closely resembles that of Ockeghem. Kyrie I and II
Figure 6-4. Accent profiles for La Rue, Missa L'homme armé II, Kyrie.

(kyrie I)

(christe)

(kyrie II)
are modally centric, emphasizing G, the Mixolydian final. In the Christe, less emphasis is found on that pitch class, more on C. The profile reveals three FTAs supported by C in the bass after the opening. These are evenly spaced, evenly accented and cadentially supported. Moreover, they articulate open sonorities rather than full. Since, according to modal theory, open sonorities at cadences are preferable to $\frac{7}{6}$ or $\frac{5}{6}$ structures, these three timepoints may give C a temporary modal centricity of its own. At any rate, the more even division of the pitch-class space in the Christe contrasts with the regular emphasis of G in Kyrie I and II.

Josquin, *Missa L'homme armé super voces musicales*

To this point, we have been able to identify ways in which FTA timespan partitioning and pitch class centricity contribute to a sense of form in the Kyries of Ockeghem, Obrecht and La Rue. Let us continue our analysis by considering the accent profiles of Josquin’s *Missa L'homme armé super voces musicales* in Figure 6-5.¹

Here, as in La Rue’s Kyrie, the profiles clearly reveal similarities between Kyrie I and II which contrast with the shape of the Christe. FTAs are primarily clustered in the

¹ The accent profile for this work is presented here on a slightly smaller scale than the others. This was necessary because the profile had to be photocopied in reduction to fit the margins for this document. However, the length-height ratios within the profile remain consistent.
Figure 6-5. Accent profiles for Josquin, Missa L'homme armé super voces musicales, Kyrie.
middles of the outer sections, but are otherwise spaced at fairly even timespans, usually one or two breves in length. The final coincident arrivals are the strongest in Kyrie I and II. In the Christe, on the other hand, the FTAs are spread more irregularly over the movement's length. The final FTA is not the most strongly accented in the section, and the profile's descending shape at the end makes clear the successive voice exits.

Other points of contrast are evident in this movement. Kyrie I and II each have one interior high point (repeated immediately). Subsequent FTAs are weaker until the final cadence. There are three strong points within the course of the Christe, each fairly equally accented in the texture. All occur on the downbeat, and all support cadences.

Finally, pitch-class structures support a ternary design for this movement. In Kyrie I, pitch class D emerges as the most frequently emphasized by accented attacks. In the Christe, A and E clearly predominate. Kyrie II is primarily a synthesis of the preceding two sections, with D and A sharing approximately equal emphasis in the texture. However, stronger emphasis on D is supported by the final cadence of the movement. Moreover, we see once again in this movement an emphasis of full sonorities at FTAs.

A closer look at the beginnings and endings of each section will help determine if any other pitch-class patterns arise. All three movements begin with a primary accent in two
voices, with either an open octave or fifth-plus-octave ($^6$); that is, they all begin with equal weight. Kyrie I begins with a D sonority, and ends with A. The Christe begins on A and closes, albeit weakly, on E. Finally, Kyrie II begins on A and closes on D.

These patterns form an interesting and, compared to the other Mass movements studied thus far, unique approach to pitch-class consistency and form in this music. In the works of the preceding composers, we noted that within sections, emphasized pitch-classes were consistent. These provided either contrast or unity throughout the Kyrie. Here, however, pitch-class patterns within the three sections are less consistent, as the beginnings and endings show: these patterns create a feeling of sonority contrast not only within sections, but over the complete movement. (By "sonority contrast" here, we do not mean tonal contrast; rather, we refer more simply to specific pitch classes highlighted by PTAs in one or another part of a work.) That contrast is evident in the D-A-(E)-A-D pattern provided by the beginnings and endings. Thus, the ternary design implied by strong emphasis on D, then A, then D again is not simply restricted to individual sections. It spans the complete movement, overlapping section beginnings and endings. This overlapping creates a type of pitch-class unity not seen in the works of Ockeghem, Obrecht and La Rue.
Josquin, Missa L’homme armé sexti toni

The accent profiles of Josquin's sexti toni Kyrie are provided in Figure 6-6. We may be struck immediately by the similarity of Kyrie I and the Christe to the profiles of the same sections in super voces. In the first section, FTAs occur at fairly regular spans and increase in weight to a point approximately two-thirds of the way through. The penultimate is weaker again, and precedes the final, strongest point of coincident accents in the section. The Christe has alternating stronger and weaker FTAs at wider, more irregularly spaced points. As in super voces, there are three stronger FTAs, all of virtually the same weight in the texture. The profile once again shows the successive voice exits in this section.

Kyrie II appears different from the preceding two sections, but in fact has several traits in common with Kyrie I. First, FTAs, although found only at the beginning and end, are regularly spaced. After the strong opening, we see three evenly-weighted FTAs. These are followed by a long span in which there are no coincident strong accents in more than two voices. The antepenultimate FTA is the strongest in the section, and is followed by a weaker coincidence before the final cadence.

The distribution of highlighted pitch classes in this Kyrie closely resembles that found in the same movement of
Figure 6-6. Accent profiles for Josquin, Missa L'homme armé sexti toni, Kyrie.
super voces. Kyrie I emphasizes F. The Christe begins on an open sonority with F in the bass, but ends with more stress on C. Pitch class G is also prominent in the middle section. Kyrie II commences with a strong B♭, returns to two FTAs supported by C in the bass, and ends with strong emphasis on F again. Thus we see the same pattern noted in the previous Kyrie. Pitch classes highlighted by coincident strong accents vary over the complete movement: F-C-F. The ABA structure inherent in this plan overlaps the boundaries of the sections, and creates both unity and formal contrast for the Kyrie.

Now that we have completed the extractions and accent profiles for each individual movement, we can identify the common threads that run through the different works. For instance, all the composers studied here use timespan partitioning by FTAs to create formal contrast within or between movements. This partitioning may be described generally as more or less regular, and more or less frequent. Similarly, patterns in the distribution of different weights of FTAs, combined with their frequency and regularity of occurrence over the time-space of the piece point to some normative features of form.

For instance, we can see in these few examples the emergence of distinct shapes, of which there are two basic types. First, there is an arch-plus-peak pattern found principally in the outer sections. In this pattern, FTAs become successively stronger to a strongest point, then become
weaker until the final cadence, which is often the strongest FTA in the section. This paradigm is found in Ockeghem's Kyrie II, Obrecht's Christe and Kyrie II, La Rue's Kyrie I and II, and both of Josquin's Kyries I and II (although less distinct in the last section of sexti toni.) These patterns suggest a formal profile of introduction, establishment of accentual regularity (akin, perhaps, to the concept of harmonic rhythm), and disruption of that regularity in a drive to the final cadence.

The second pattern evident in the accent profiles is a multiple-arch paradigm. These occur in all the Christe sections but Obrecht's, as well as in Kyrie I of the Obrecht movement. Multiple-arch paradigms are characterized by their use of two or more high points with lower points in between. In the earlier composers, FTAs in these sections are often distributed irregularly or successively in groups (recall, e.g., the profile for Obrecht's Christe). In the works of La Rue and Josquin, however, we saw a general alternation of stronger and weaker FTAs in this pattern. Moreover, spans preceding stronger points are usually longer than spans preceding weaker ones. Musically, this suggests a repeating pattern of climax and repose throughout a section, and contrasts with the arch-plus-peak pattern.

Stronger and weaker FTAs in both the multiple- and single-arch patterns create structures analogous to metric patterning. For instance, let us consider Ockeghem's Kyrie II
(recall Figure 6-2). Here we see a rise to a high point in the profile, followed by a descent to a low point before the final strong cadential attacks at the end of the section. This is our paradigmatic single-arch profile. If we consider the highest point (i.e., strongest FTA) on the profile as analogous to a metric downbeat, then the successively weaker FTAs are weak, irregular beats. The weakest then precedes the strong beat represented by the final coincident strong accents.

In contrast to this pattern, consider now the multiple-arch pattern. We have already pointed out the fact that longer timespans tend to precede stronger accents, shorter timespans weaker accents. Again, this pattern is analogous to the concept of downbeat and upbeat characteristics in a metric pattern. In this sense, the multiple-arch paradigm has several regular pulses with intervening weaker beats. This contrasts with the single-arch pattern with its less regular structure.
CHAPTER 7

CONCLUSIONS

We will end our study first by summarizing our analytic methodology, then by reviewing important observations arising from the analyses, extractions and accent profiles. Finally, we will present some global hypotheses engendered by these observations. These hypotheses are restricted to the parameters considered in the analysis, namely timespan partitioning, rhythm, and pitch-class patterns.

We began our analysis by renotating the score of each Kyrie, using different notational symbols to represent different types and strengths of accents. This first step allowed us to note both general and specific characteristics of each individual voice part in each section of a movement. Specifically, we saw that strong accents in a single voice can articulate regular timespans by synchronizing with downbeats or upbeats, or be asynchronous in terms of articulating consistent timespans. Moreover, we were able to determine
patterns of pitch-class consistency in each voice. We noted that some sections of some Kyries had a higher degree of consistency than others. Occasionally, timespan and pitch-class patterns suggested ABA formal designs within individual voice parts over a complete Kyrie.

Our analysis also revealed patterns suggested by the interaction of strong accents in the polyphonic texture. Here we noted instances of coincidence and isolation, pointing out general characteristics of each section. One particularly clear pattern to emerge in these discussions was the articulation of regular or irregular timespans by the interaction of these accents. In particular, we saw how composers are able to emphasize the notated downbeat of a piece by consistent, regular coincidence of FTAs at those timepoints. On the other hand, the analysis also revealed how the same composers often deemphasize the mensural pulse by placing only weak accents—or no accented pitch attacks at all—on successive downbeats.

Moreover, the renotated scores made clear the distribution of strongly accented pitch-class attacks at FTAs in a movement. Again, we were able to see how composers sometimes highlight certain pitch classes in some sections, while downplaying them or emphasizing others in different sections. Patterns of pitch-class consistency and meter created by the interaction of strong accents in the full
texture were thus revealed as generators of form within each
Kyrie.

Once these basic analyses were completed, we were able to
extract the most strongly accented timepoints. This was done
by removing all weak accents from the texture, as well as
timepoints with fewer than three coincident strong accents.
The result was a simplified representation in which relative
distributions of FTAs over each section became clearer, as did
pitch-class patterns. The extractions allowed us to observe
patterns that were less evident in the renotated full score.
This in turn allowed us to see more clearly formal designs
suggested by the regularity or irregularity of FTA
recurrences, by the distribution of stronger and weaker FTAs,
and by patterns of pitch-class consistency or inconsistency
created by FTAs.

Finally, we used a graphic symbology--the accent
profiles--to represent the extractions. These allowed us to
see clearly the shape of each section in both time- and pitch-
class spaces. The horizontal axis represented the former, the
vertical axis the latter. The profiles facilitated our
comparison of sections for each composer and between different
composers.

The results of our analyses--renotations, extractions and
accent profiles--point to some normative features of formal
and pitch-class designs for the different composers. For
instance, articulation of regular timespans is commonly used
as a formal device by these composers, both in individual voices and in the patterning created by FTAs. These timespan structures are sometimes clear, sometimes subtle; sometimes square, sometimes elastic. They are almost constantly changing.

Similarly, pitch-class patterns, which exist in individual voice parts and in the full texture, have two typical functions. First, where formal design is clear in the patterning of accents in individual voices and FTAs, consistent emphasis on certain pitch classes may provide unity and coherence for the movement. This was the case in Obrecht's Kyrie. Second, changing pitch-class emphasis in a movement can itself contribute to form. Moreover, as we saw in the works of Josquin, the highlighting of different pitch classes can cross the physical boundaries of the sections within a movement, creating formal contrast while at the same time providing unity between the sections.

Consistent pitch-class emphasis in these works may have important ramifications for our understanding of modal theory in the Renaissance. For instance, the analysis, extractions and accent profiles suggest that mode may be determined to a large extent by these emphasized pitch classes. If, as in Obrecht's Kyrie for example, certain pitch classes are emphasized by coincident accents as well as by accents in individual voices, then perhaps we may rightly consider full textures in the determination of mode. In the case of
Josquin's Kyrie from Missa L'homme armé super voces musicales, this aspect of the piece is at least partly responsible for asserting the Dorian mode despite the CF's emphasis on the C-G fifth and G-C fourth. Such a possibility would bring into question the already dubious view that only the tenor determines the mode in a Renaissance CF work.

The patterns noted above cannot be revealed by traditional methods of analysis. The methodology proposed here is unique in its ability to represent both rhythmic and pitch-class elements in a work without recourse to traditional harmonic and metric systems. Here, we are able to see clearly that the seamless textures of the Renaissance polyphonic style are created by the non-coincidence of strong accents between the voice parts. We can also see that pitch-class patterns, although sometimes consistent in terms of sonorities emphasized at certain timepoints, are not necessarily tonally motivated. That is, formal contrast is occasionally created by emphasis on one or another pitch classes, and not by a change in pitch-hierarchic diatonic collections. The former may be a precursor of the latter, but the two are not the same.

In these respects, the work of this study is more comprehensive than that done by Cogan and Escot.¹ In their analysis of the Amen from Machaut's Messe de Notre Dame, they

are concerned only with rhythmic and metric accents based on quantity of attacks at timepoints. Interested principally in the confirmation of meter by concurrent attacks in three or four voices, they show that "[t]he meters 3/2 and 3/0 are statements of these regularities of accentuation [in the Amen]; they confirm the accents at the points of simultaneous attack. The beginning of each measure, then, is a relatively accented point in the time flow." Although not without merit, the confirmation of notated meter based solely on quantity-articulation was not the aim of our study.

Moreover, the applications for this analytic methodology need not be limited to CF Masses, or even sacred polyphony in general. It might be equally applicable to secular genres, such as the Burgundian chanson or the early frottola. The methodology might also be applied successfully to late sixteenth-century works, such as Masses or madrigals. Furthermore, the analyses, and the accent profiles in particular, could likely be generated by a simple computer program. However, these applications are beyond the scope of our present study.

The hypothesis suggested above--that sections with emphasis on different pitch classes in the pre-tonal repertory may be a forerunner of contrasting key sections in tonal music--is only one to arise from this study. Our results also suggest that the use of timespan partitioning and pitch class

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2 Ibid., 232.
as formal devices may be common to other sacred polyphonic genres, such as motets and magnificats. Additionally, the timespans delineated by accents of various types might be investigated more thoroughly in terms of their interaction with other meter-defining criteria. The interaction of different or same meters in different voices would be a challenging complement to the methodology developed here.  

The accent profiles for the four composers represented in our study suggest an astounding development in form over a short period of time. The profiles for the earlier composers—Ockeghem and Obrecht—are relatively unpatterned and have few consistencies. Although we noted general patterns between sections, the profiles themselves are quite different from section to section. In the Kyries of La Rue and Josquin, however, this is not the case.

The accent profiles of these two later composers suggest a greater sensitivity to matters of form and pitch-class. The almost identical profiles of the Kyrie sections within each Mass, and the high degree of similarity between those same sections from different Masses contrast with the profiles of the Christes. These middle sections are themselves almost identical in the three different works by Josquin and La Rue. Furthermore, the more subtle use of contrasting (centric)

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3 Some work has already been done on the interaction of pulses among different lines in a polyphonic texture. See, for example, John Roeder, "Interacting Pulse Streams in Schoenberg's Atonal Polyphony," *Music Theory Spectrum* XI/2 (1994): 231-249.
pitch-class elements by Josquin in particular points to a greater sensitivity in the use of those materials to create formal contrast while at the same time providing coherence in a movement. Analysis of sacred polyphonic works by later composers may well reveal a continuing trend toward the establishment of normative formal and pitch-class procedures in a work. If this is the case, then we shall one day have a better understanding of how Renaissance composers took giant steps toward the development of a tonal-hierarchic system of composition.
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