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Unusual Accidental Signs, Microtonal Inflections, and Marchetto of Padua

Alan D. Richtmyer

The Graduate Center, City University of New York

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Unusual Accidental Signs, Microtonal Inflections, and Marchetto of Padua

by

Alan D. Richtmyer

A dissertation submitted to the Graduate Faculty in Music in partial fulfillment of the requirements for the degree of Doctor of Philosophy, The City University of New York

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Unusual Accidental Signs, Microtonal Inflections, and Marchetto of Padua

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Alan D. Richtmyer

This manuscript has been read and accepted for the Graduate Faculty in Music in satisfaction of the dissertation requirement for the degree of Doctor of Philosophy

Date

Dennis Slavin
Chair of the Examining Committee

Date

Norman Carey
Executive Officer

Supervisory Committee:
Dr. Anne Stone, Advisor
Dr. Ruth DeFord, First Reader

THE CITY UNIVERSITY OF NEW YORK
ABSTRACT

Unusual Accidental Signs, Microtonal Inflections, and Marchetto of Padua

This thesis addresses the question of how an interval roughly half the width of the minor semitone could be incorporated into the otherwise strictly diatonic framework of the medieval gamut and then asks whether certain unusual accidentals signs found in fourteenth- and early fifteenth-century sources were meant to signal such inflections.

It demonstrates that when a tone is subdivided so as to produce a microtone, the chromatic part that remains must either be made explicit, or must be transferred elsewhere in the scale so that the encompassing framework of the gamut will remain intact. It shows that when the former occurs in a polyphonic context, the result is chromatic motion; when the latter occurs, the transfer of the chromatic remainder results in a very wide third or sixth.

This thesis examines the texts of eight theorists whose writings date from approximately 1320 to 1425, and whose discussions refer to or engage with such inflections. Among these eight sources are four who illustrate accidental signs whose design is graphically distinct from that of the square-b, and whose purpose is to indicate a microtonal inflection. It further demonstrates that among these, the sign devised by Marchetto of Padua is unique in its intent to express both the chromatic and diatonic parts of the divided tone, which Marchetto calls chroma and diesis.

Because Marchetto’s testimony is the only complete discussion of this subject, the introduction to this thesis is followed immediately by the relevant chapters of Lucidarium in the parallel Latin critical edition and English translation of Jan Herlinger.

A close reading of Treatise 4 of Marchetto’s Pomerium (hereafter Pomerium 4), upon which Herlinger bases his conclusion that Marchetto’s special sign is called falsa musica, shows that Marchetto’s name for his sign was not falsa musica but musica colorata. The sign falsa
\textit{musica} is shown to be that of a separate musical collective whose practice embraced \textit{diesis}, but avoided \textit{chroma}.

A new translation of \textit{Pomerium} 4 is made and subsequent analysis suggests the possibility that the proponents of \textit{falsa musica} came before Marchetto. Evidence from two of the sixteen polyphonic works examined suggest their practice may extend back into the thirteenth century, and that use of microtonal inflections in polyphony may have been a practice adopted from plainchant.

\textbf{Chapter I} presents evidence that the enharmonic \textit{diesis} had long been in use in plainchant, and that it may have crossed over into polyphony as early as the mid-thirteenth century.

\textbf{Chapter II} examines the eight fourteenth- and early fifteenth-century sources that discuss microtonal inflections.

\textbf{Chapter III} studies the modern reception of these sources, the difficulty that those reading them had in understanding their microtonal theory, and the impact this had upon the project to transcribe all extant fourteenth- and early fifteenth-century polyphony into modern edition.

\textbf{Chapter IV} presents a new translation and analysis of Treatise Four of Marchetto’s \textit{Pomerium}, in which it is revealed that there are two signs under discussion, not one as previously thought; that Marchetto’s sign is named \textit{musica colorata}, not \textit{falsa musica}; that \textit{falsa musica} is the name of an earlier sign; that the difference between them is that the former signals both \textit{chroma} and \textit{diesis}, while the latter signals \textit{diesis}, only.
Chapter V is an analysis of the three earliest motets in which Marchetto’s *musica colorata* sign is used to inflect progressions of imperfect-to-perfect consonance; the absence of chromatic motion is noted in the second and third, but shown to be possible in the first.

Chapter VI examines the use of the *falsa musica* sign in six polyphonic works and presents evidence that this sign signals a microtonal inflection. The possibility that the microtone *diesis* carried with it a sense of sacredness, based upon its use in plainchant, is raised; so is the possibility that it was first used in secular polyphony—specifically a pair of motets from the Interpolated *Roman de Fauvel*—in a profane sense to send a message to the future Edward III of England and to his mother, Isabella of France, to maintain peace between the two nations. The fact that in these two motets, the same pitch is inflected by both the normal square-b and by *falsa musica* is described as “anomalous use”; the question of whether *falsa musica* was used to highlight the text so inflected is raised.

Chapter VII is a study of the third type of unusual sign, those with dots in their *quadratum*; a series of visual indices, showing the great number of works signed with dotted accidentals is presented along with tabular data; the discrepancy between the very few sources of unusual signs in the early fourteenth century versus the great number of such signs in the early fifteenth century is noted; the very unusual dotted signs in the five short two-voice polyphonic songs from the MSS Pc 55/56 are analyzed and are shown to inflect both *chroma* and *diesis*; the problematic nature of these two manuscripts—apparently 13th century repertoire but 15th century recensions—is discussed; the chapter concludes with an analysis of the virelai *Sus une fontaine* by Ciconia, during which it is shown that its sources, three of ballades of Filippotto da Caserta, show evidence of microtonal inflections.
To William E. Richtmyer

pilot, WWII aviator, father

and to me the model of courage under fire
ACKNOWLEDGEMENTS

It is a pleasure to express my gratitude to my Dissertation Committee: to Anne Stone, my thesis advisor, whose curiosity about the curious dotted accidental signs in the MS ModA sparked my interest in this subject and ultimately set me on the path that led to this thesis; to Dennis Slavin and Ruth DeFord, for their unflagging support during the long process of writing and completing this document; and to Norman Carey, for his keen interest in this topic.

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I wish to express my special thanks to Jan Herlinger, whose work on Marchetto made this thesis possible, and whose friendship has been a guiding light throughout.

And finally, while I have benefitted greatly from the help of those named above, any mistakes that remain herein are mine alone.
# TABLE OF CONTENTS

## A. Introduction
Fourteenth-century sources that mention or discuss microtonal inflection — Marchetto of Padua’s *Lucidarium*, its description of non-Pythagorean inflection, and its use of a new accidental sign [♯] to signal it — Martin Gerbert’s 1784 edition of the *Lucidarium* and his substitution of the square-b [♮] for Marchetto’s special sign [♯] — Jan Herlinger’s 1985 critical edition of the *Lucidarium* and the first accurate image of Marchetto’s sign — The completion of *PMFC* that same year — The two motets signed with [♯] in their sources, but transcribed with [♯] in *PMFC* vol. xii

## B. Technical Forward
Marchetto’s five-fold equal division of the tone and the two unlike pairs of semitones that result — Ex.3 from *Lucidarium* demonstrating permutation via *chroma* and *diesis* and the special sign [♯] that signals it — Ex.4 from *Lucidarium* demonstrating permutation via the round-b and square-b — The third sign called *falsa musica* — Pomerium 4 and the problem of the fourth sign [♮] — the discovery that this [♯] is *musica colorata* and that this icon [♮] represents *falsa musica* — why this [♮] may be what *falsa musica* looked like when written on the staff — the dispute over chromatic motion between those who used *falsa musica* (i.e., the “falsa musicisti”) and Marchetto — The question posed by Jerome of Moravia — The five diagrams that demonstrate how microtonal intervals are incorporated into a diatonic framework

## C. Visual Indices Illustrating the Four Types of Unusual Signs
- *Musica colorata*
- The three-stroke square-b (*falsa musica*)
- Signs with dots
- The Sharp and the “Swung Sharp”

## D. Parallel Latin / English text: *Lucidarium* 2.6-8; 5.6; and 8.1
Annotated transcription from Jan Herlinger’s 1985 Critical Edition and English Translation of the *Lucidarium*

## Chapter I: The Phenomenon of Microtones in Medieval Music
The persistence of the enharmonic diesis in plainchant — Indications of microtones in medieval polyphony — *Flos de spina* and its curious compound sign — The motet *Qui secuuntur / Detractor est / Verbum iniquum* and its curious compound sign —
The phenomenon of “Anomalous Use” — Dotted accidentals and the question of text inflection

Chapter II: Written Testimony regarding Microtones in Medieval Polyphony

Guido frater and the Ars musica mensurata — Filippotto da Caserta and the Regule contrapuncti — The Berkeley Manuscript and the Tonus dividitur in 3 partes — Ciconia and Chapter 23 of Nova musica — Frater G. de Anglia — Prosdocimo de’ Beldomandi and the Musica speculativa

Chapter III: Close Encounters with Microtones

Gerbert 1784 — Fétis, Ambros, Riemann — Leo Schrade — F. Alberto Gallo

Chapter IV: Marchetto, Pomerium 4, and falsa musica

A New Translation of Pomerium 4 — Analysis and Summary — Interpretation — The “Loop” — Conclusion

Chapter V: Marchetto’s musica colorata Sign

Introduction — The motet Ave regina / Mater innocencie / Ite missa est “Joseph” — Its History — The circumstances connecting the motet to the Scrovegni Chapel — Its accidental signs — The motet Ave corpus sanctum — The motet Marce, Marcum imitatis — Conclusion

Chapter VI: The Three-Stroke square-b (a.k.a. falsa musica)

Introduction — The Durham Kyrie — The Durham Gloria Spiritus et alme — The motet Mundi dolens — The conductus Flos de spina — fr.571 and the Marriage of Edward III to Philippa of Hainaut — The fr.571 recensions of the motets Ludowice / Servant regem / Rex regum and Qui secuentur / Detractor est / Verbum iniquum — Same pitch but different accidentals — A musical gloss upon the text — The unusual sonority at measure 41 — Revisiting fr.571 — Aquitaine — Conclusion — The four-stroke square-b — The motet Iesu fili / Ihesus fili veritatis / Iesu lumen — Chapter Conclusion

Chapter VII: Unusual Accidental Signs with Dots

Introduction — History and Background of Signs with Dots — Visual Index I: By Number of Dots — Visual Index II: Variety of Dots by Number — Visual Index III: The Scribes of Pr — Prior Research on Dotted accidentals: Johannes Wolf; Friedrich Ludwig; Wolf and Ludwig Compared; Suzanne Clercx; Lucy Cross; Antoine Auda; Pedro Memelsdorf; Gilbert Reaney; Margaret Bent — The Padua Processionales C55/56 — Introduction — The Purification Office: Analyses of Ave gratia plena and
Susciiens Symeon; The Ascension Office: Description and Analyses of Quare sic aspicitis; Quis est iste; and Iste formosus — Textual Background — Ciconia’s Sus une fontaine — Introduction — Background to the Song — A New Parallel Transcription of ModA and Ox 229 — Analysis — Unusual Accidentals in the Sources of Sus une fontaine — En remiram vo douce pourtraiture — The Inflection b/4 and the refrain of En remiram vo douce pourtraiture — De ma dolour — The accidentals b/5, c/6 and e/10 in the Ch Recension of De ma dolour — Chapter Summary.

Chapter VIII: Conclusion ................................................................. 301

Bibliography: .................................................................................. 307
LIST OF ILLUSTRATIONS

Fig.1: Luc. Exx.3-4 Demonstrating Chromatic Motion via Both Divisions of the Tone
Fig.2: The Two Accidental Signs in Pomerium 4.17 (Source = M, ff.84vb and 85rb)
Fig.3: Luc. Ex.14: Comparing Accidentals as Written on Staff Lines vs. Icons in Text
Fig.4: b-quadrati with Three Diagonal Strokes
Fig.5: The Minor Third Between .a. and .c.; The Greater and Lesser Perfect Systems
Fig.6: Two Twelfth-Century Illustrations of the Gamut
Fig.7: Division of the Tone f-g into the Minor Semitone f½-g (i.e., fmi-gfa)
Fig.8: Mutation via Non-Pythagorean Intervals and Unusual Accidental Signs
Fig.9: Ex.3a from Lucidarium: Marchetto’s First Demonstration of Permutation
Fig.10: Visual Index of musica colorata
Fig.11: Visual Index of the Three-stroke Square-b (a.k.a falsa musica)
Fig.12: Visual Index of Signs with Dots

Fig.I.1: Gamut of Dij 1 Showing the Five Non-Alphabetic Signs
Fig.I.2: Ferreira’s Evidence for the Quarter-tone E
Fig.I.3: Compound Signs
Fig.I.4: A Possible Indication of an Enharmonic Interval in Flos de spina?
Fig.I.5: [sqb+rdb] n/15 (remnant from earlier recension); replaced by [3sqb] o/16
Fig.I.6: The Five Three-Stroke b-quadrati of Qui / Detractor / Verbum
Fig.I.7: Anomalous Use: bb Twice Inflected by falsa musica with One [3sqb] Between
Fig.I.8: Concluding Measures of the Motet and their Echo in the Roman de Fauvain
Fig.I.9: The Six Works Exhibiting the Phenomenon of “Anomalous Use”
Fig.I.10: Iste formosus: Text Inflection by Unusual Sign?
Fig.I.11: Ave gratia plena: Three Semitones in a Row
Fig.I.12: Text Inflection in Ave regina / Mater innocencie / Ite missa est “Joseph”?

Fig.II.1: Guido frater’s Illustration of the Square-b and musica colorata
Fig.II.2: Comparing musica colorata to the Sharp
Fig.II.3: Where—and with what Sign—the Diatonic Semitone is Indicated
Fig.II.4: Ciconia’s Chromatic, Diatonic, and Enharmonic Semitones
Fig.II.5: Enlargement of Ciconia’s diatonicum
Fig.II.6: The Nine-Fold Division of the Tone in US-Cn MS Case 54.1, f.9v
Fig.II.7: Fig.II.7: Enlargements of Central Diameter Showing New and Old Divisions

Fig.III.1: Gerbert’s Reproduction of Luc. Exx. 3, 4, and 5
Fig.III.2: Excerpt from GS 3:74 Showing Juxtaposition of Luc. Exx. 4 and 5
Fig.III.3: falsa musica & musica colorata in M and in Gerbert
Fig.III.4: The Six Unusual b-quadrati in fr.571
Fig.III.5: Schrade’s Notes on the Unusual square-b in fr.571
Fig.III.6: Three-stroke square-b (above hodie); Transcr. of the Last Nine mm. of Ludowice
Fig.III.7: Schrade’s Transcription (mm.56-59) of the Same Passage as Above
Fig.III.8: Gallo’s Transcription of the Accidental Signs from Ars musice mensurate
Fig.III.9: Gallo’s Description of the Accidental Signs in Ave corpus sanctum
Fig.III.10: Critical Notes to PMFC xii, no.38; Images from the Manuscript
Fig.III.11: Accidentals, Transcription, and Critical Notes (excerpts) from *Ave / Mater / Ite*

Fig.V.1: Schematics of Giotto’s Frescoes in the Scrovegni Chapel
Fig.V.2: Joseph’s Betrothal to the Virgin
Fig.V.3: The Birth of Christ
Fig.V.4: The Donation of the Chapel
Fig.V.5: The Oxford Recension of *Ave / Mater / Ite*
Fig.V.6: The Eleven Upwards-Inflecting Signs of *Ave / Mater / Ite*
Fig.V.7: The Twelve Upwards-Inflecting Signs of *Ave corpus sanctum*
Fig.V.8: Three Images of the Same Sign (from I-Pc C56, f.15v)
Fig.V.9: Comparison of the Opening Measures of *Ave / Mater / Ite* to *Ave corpus sanctum*
Fig.V.10: The Four *musicae coloratae* of *Marce, Marcum imitaris*
Fig.V.11: Chromatic Motion in *Ave regina / Mater innocencie / ite missa est “Joseph”?*

Fig.VI.1: *b-quadrati* with Three Diagonal Strokes (a.k.a., falsa musica)
Fig.VI.2: The Six *b-quadrati* of the Ninefold *Kyrie*
Fig.VI.3: The Inflection of *Kyrie I*
Fig.VI.4: *Christe* — A Conflict Between Signs?
Fig.VI.5: The Inflection of *Kyrie II*
Fig.VI.6: *Et in terra … adoramus te* (beats 1-32)
Fig.VI.7: *Gracias agimus tibi* (beats 38-43)
Fig.VI.8: *Rex* (beats 58-62)
Fig.VI.9: *unigenit iesu … peccata mundi … iesu christe*
Fig.VI.10: *Dei filius* (beats 100-114)
Fig.VI.11: *Miserere nobis* (beats 190-195)
Fig.VI.12: *Patris. Amen.* (beats 253-266)
Fig.VI.13: The Two- and Three-stroke *b-quadrati* of *Mundi dolens*
Fig.VI.14: The Through-Composed Tenor of *Mundi dolens*
Fig.VI.15: The Three bmi-fmi Sonorities
Fig.VI.16: The Text of *Mundi dolens*
Fig.VI.17: *Hu* ff.136r-136v
Fig.VI.18: Transcription of f.136r, Middle of System 2 to f.136v, Beginning of System 2
Fig.VI.19: The Transposition Down a Fourth at mm.113-114
Fig.VI.20: An Unsigned Change of Signature in *Ma*
Fig.VI.21: An Enharmonic Pitch at *Verbum* (m.130)
Fig.VI.22: Cancellation of Signatures at m.130 & m.158
Fig.VI.23: Another Location with a Problematic Semitone?
Fig.VI.24: Texts & Translations of *Ludowice / Servant regem / Rex regum*
Fig.VI.25: Text, but no Music
Fig.VI.26: The Three-Stroke *b-quadratum* at the Crux of *Ludowice / Servant / Rex*
Fig.VI.27: Texts & Translations of *Qui Secuuntur / Detractor est / Verbum*
Fig.VI.28: *causa necessitatis*
Fig.VI.29: The Five Three-Stroke *b-quadrati* of *Qui / Detractor/ Verbum*
Fig.VI.30: Concluding Measures of *Qui* and their Echo in the Roman de Fauvain
Fig.VI.31: Four- and Three-Stroke *b-quadrati* Inflecting bmi
Fig.VII.1: Prospectus I – Dotted Accidentals by Number of Dots
Fig.VII.2: Four-Dotted Signs
Fig.VII.3: Two-Dotted Signs
Fig.VII.4: One-Dotted Signs
Fig.VII.5: Three-Dotted Signs
Fig.VII.6: Signs with Zero Dots
Fig.VII.7: Prospectus II – Dotted Accidentals by Number of Dots
Fig.VII.8: Dots on the Tangent
Fig.VII.9: Dots at the Intersection; Triangles at the Intersection
Fig.VII.10: Incise at Intersection / on Tangent
Fig.VII.11: “x”-shape in quadratum
Fig.VII.12: Graphic Habitus of the Scribes of Pr
Fig.VII.13: Prospectus III
Fig.VII.14: Problems in Counting the Dots
Fig.VII.15: Excerpt I from Wolf’s Geschichte
Fig.VII.16: Excerpt II from Wolf’s Geschichte
Fig.VII.17: Excerpt III from Wolf’s Geschichte
Fig.VII.18: Excerpt IV from Wolf’s Geschichte
Fig.VII.19: B-Tc Et in terra pax mm.1-13
Fig.VII.20: Coussemaker Diplomatic Facsimile vs. Dumoulin Photo
Fig.VII.21: Accidentals 28r.7a and 28r.9b
Fig.VII.22: Romanus Gloria, Amen, from Q15
Fig.VII.23: The 16 Works of Ciconia with Dotted Accidentals
Fig.VII.24: Ave gratia plena, The First Chromatic Progression – d/4
Fig.VII.25: Ave gratia plena, The Second and Third Chromatic Progressions – e/5 and d/4
Fig.VII.26: Ave gratia plena, a/1 and c/3
Fig.VII.27: Ave gratia plena, The Problematic Wide Fifth – b/2
Fig.VII.28: Ave gratia plena, The Chromatic minor third – g/7 and h/8
Fig.VII.29: Ave gratia plena (with Translation)
Fig.VII.30: Suscipients Symeon, Accidentals a/1 c/3 and b/2
Fig.VII.31: Omnis pulchritudo (Responsory from the first Nocturn of Matins for Ascension Day)
Fig.VII.32: Quare sic aspicitis, Paraphrase of Acts 1:11
Fig.VII.33: Quare sic aspicitis: Inflections 1
Fig.VII.34: Quare sic aspicitis: Inflections 2
Fig.VII.35: Quis est iste, Isaiah 63:1
Fig.VII.36: Quis est iste, Transcription
Fig.VII.37: Iste formosus, Transcription
Fig.VII.38: Accidental Signs in Ox 229 and their Status in PMFC xxii
Fig.VII.39: Ciconia’s quotation of En remirant, accidentals c/2, j/3, and d/4 in Ox 229
Fig.VII.40: Ct and T of En remirant vo douce pourtraiture, mm.1-6
Fig.VII.41: Sus une fontaine, From e/5 to g/7
Fig.VII.42: Coincidence of normal and dotted b-quadrati in the Tenor of Sus une fontaine, Ox 229
Fig.VII.43: Sus une fontaine, First Arc (recognizable) — Ciconia’s Quotation of “en remirant”
Fig.VII.44: First Arc (perhaps unconscious) — “Sus une fontaine”
Fig.VII.45: First Arc (true) — “Sus une fontaine” to “en remirant”
Fig.VII.46: Second Arc ("en remirant – en atendant"); First Retrograde ("que mon cuer—en remirant")
Fig.VII.47: Second Retrograde Arc ("en atendant ← Sus une fontaine")
Fig.VII.48: End of Verse 5 of Sus une fontaine || Beginning of En attendant soufrir m’estuet (ModA)
Fig.VII.49: Summary of the Unusual Accidentals in the Sources of Sus une fontaine
Fig.VII.50: Texts of the A-B Sections of Sus une fontaine and En remirant vo douce pourtraiture
Fig.VII.51: Junction of “que mon cuer || las il ne puet," En remirant, mm.23-24; source = Ch
Fig.VII.52: Junction of “que mon cuer || las il ne puet," En remirant, mm.23-24; source = Pr
Fig.VII.53: Junction of “que mon cuer || las il ne puet," En remirant, mm.23-24; source = ModA
Fig.VII.54: The Normal Sharps i and ii of ModA
Fig.VII.55: End of A Section – Beginning of B Section; En remirant, mm.23-25; Source = ModA
Fig.VII.56: f.34v of ModA showing the normal and swung sharps of En remirant
Fig.VII.57: mm.36-42 of the Refrain of Enremirant vo douce pourtraiture and the inflection b/4
Fig.VII.58: Oblique fa-mi Discords in En remirant vo douce pourtraiture
Fig.VII.59: Contratenors, mm.73-76, from the ModA and Ox 229 Recensions of Sus une fontaine
Fig.VII.60: mm.1-7 of ModA & Ch Recensions of De ma dolour; mm.70-77 from Ox 229
Fig.VII.61: Comparison of Ch (=ModA) recension of De ma dolour with Ox 229 quotation
Fig.VII.62: De ma dolour, b/5 and c/6, mm.38-39, recension = Ch
Fig.VII.63: De ma dolour, The Counterpoint at b/5 and c/10
Fig.VII.64: De ma dolour ne puis trouver confort
Fig.VII.65: The Very Unusual Signs of the Tonus dividitur, their Possible Cognates in Pr and Q15
Fig.VII.66: Dotted Signs in Two of the Sources of Lucidarium
Fig.VII.67: Prospectus II – Dotted Accidentals by Number of Dots

Fig.VIII.1 Fumeux fume par fumee, mm.26-32
Fig.VIII.2 Prosdocimus’ Criticism of the Sharp, the Swung Sharp, and Those who use Them
Fig.VIII.3 The Microtonal Inflection of “las” (Alas!”) in the ModA recension of En remirant
# LIST OF SOURCES

<table>
<thead>
<tr>
<th>Siglum</th>
<th>Practical Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch</td>
<td>Chantilly, Bibliothèque du Musée Condé, MS 564</td>
</tr>
<tr>
<td>Q15</td>
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<td>Burgos, Monasterio de Las Huelgas, MS II (Olim MS IX)</td>
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<td>Cambridge, University Library, MS Kk.i.6</td>
</tr>
<tr>
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</tr>
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<td>Durham, Chapter Library, MS A.III.11</td>
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<td>Durham, Chapter Library, MS C.I.20</td>
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<td>Grottaferrata, Biblioteca del Monumento Nazionale, MS Kript. Lat. 219</td>
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<td>Ivrea, Biblioteca Capitolare d’Ivrea, MS CXV (115) (Ivrea Codex)</td>
</tr>
<tr>
<td>McV</td>
<td>London, British Library Add. MS 41677 I (MacVeagh fragment)</td>
</tr>
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<td>Madrid, Biblioteca Nacional, MS 20486 (Codex de Madrid)</td>
</tr>
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<td>Modena, Biblioteca Estense, MS αM.5.24</td>
</tr>
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<td>Montpellier, Bibliothèque de l’École de médecine, MS H. 159</td>
</tr>
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FORWARD

This document cannot fully be understood on the basis of its text alone. The images of the unusual accidental signs under investigation here, most of which have never before been noticed, much less interrogated, have much to tell us—even while they raise more questions than they answer. In my efforts to describe them and to discern their significance, I have tried to coordinate each example with the related text immediately above and/or below, so that the reader does not have to go searching for the example in question. I have also tried to keep the reader in touch with the larger picture—perhaps not always successfully—while exploring the details.

Regarding Accidental Signs: The two most important unusual accidentals under consideration here are this sign \[ \text{\textbackslash x0275} \] and this \[ \text{\textbackslash x0276} \]. Those familiar with Jan Herlinger’s critical edition of Marchetto’s Lucidarium will recognize the first of these as the sign he calls falsa musica. My research into these two signs, informed especially by my study of Marchetto’s Pomerium, has led me to the conclusion that the name of this sign \[ \text{\textbackslash x0275} \] is not falsa musica, but musica colorata—falsa musica is a sign that looks like this \[ \text{\textbackslash x0277} \].

In contrast to the above is the sign we now call the natural \[ \text{\textbackslash x0279} \], but which in Marchetto’s day was known as the square-b. In the fourteenth and early fifteenth centuries, the square-b was used either to cancel a previous round-b, or to inflect an upwards progression by a semitone. With the development of tonal harmony and the twenty-four major and minor keys in the late-seventeenth and early eighteenth centuries, the square-b lost its power to inflect, and became solely a sign of cancellation. Only its shape remained unchanged. Because of this, and for the sake of accuracy, I do not use the name natural in this document, but instead refer to this sign by its medieval name. The same holds true for the round-b.
When it became necessary to convert the square-b into the natural, there was only this sign \[\text{\textcopyright}\] left with which to indicate an upwards inflection. Known as \textit{diesis} in the fifteenth century, this sign was known as the sharp by the early seventeenth. Its origins are hazy, but like \textit{falsa musica} and \textit{musica colorata}, it too seems to have originated in the fourteenth century. Testimony from Prodosdocimo de’ Beldemandis explicitly attests to its use to signal microtonal inflections, but it seems likely that it was used to signal the Pythagorean minor semitone as well.

The conversion of the square-b into the natural and the elevation of the modern sharp \[\#\] into the sole accidental with the power to inflect has had an unrecognized yet profound impact on our ability to transcribe medieval polyphony into modern notation. We are now obliged to represent the medieval square-b with the modern sharp, even if the original square-b was one of the unusual types and may have signaled a microtone, rather than a semitone. If this is so, then we have yet to fully re-animate this music.

The study of these unusual signs, and the restoration of their significance, which may help us reach this goal, is the subject of this thesis.

**Pitch Names: Singular vs. Plural:** In composing this document, it was necessary to decide whether to call this sign \[\text{\textcopyright}\] by its Latin name (\textit{b-quadratum}; or sometimes \textit{b-quadrum}) or by its English name: square-b. For the most part, I use the latter. But there is a problem when using English to name more than one square-b, which is that the plural of square-b in English—square-bs—is awkward. Because of this, I decided instead to use the Latin plural: \textit{b-quadrati}.

Finally, while I rarely discuss the round-b, and even more rarely have to discuss more than one of them at a time, in those cases where it is necessary to do so, I also use it Latin plural: \textit{b-rotundi}.  
xix
**Pitch Notation:** The pitch notation used herein follows that of Guido of Arezzo. The clef and accidental signs in the illustration below are modern, as are most of the alphabetic letters. The text icons for the round- and square-b, however, were captured from a microfilm of the M recension of Marchetto’s *Lucidarium* and *Pomerium*. I refer to them as icons because while they are letters, they also stand in for accidental signs that are not identical to their letter when written on the staff. This is less apparent for the round-b, but quite noticeable for the square-b.

Regarding the names of pitches, when it is necessary to name a pitch in the running text, I insert a *punctum* (or dot) before and after the letter. This is especially useful in distinguishing the article “a” from the pitch letter “a,” and lets the reader know at a glance that:.a. is not an orphaned letter. Moreover, in so doing, I am following the practice of the scribe of M, as shown here: “ab.1. acuto adpuni.b. [from high .a. to the first .b. …].”

**Graphic Conventions:** Throughout the first three chapters, in which all the signs under consideration here are being discussed, I follow the name of each with a black and white image of the sign enclosed within square brackets: [ † ]; [ ‡ ]; [ § ].

**The ID System for Accidental Signs:**
- When, during the process of researching this thesis, I encountered a work of polyphony in which there were unusual accidental signs, I would began my study of it by preparing an edition from the source.
The process began with the identification of each accidental sign in the source, and the assignment of a unique alpha-numeric ID consisting of a letter and a number separated by a slash.

Images of the source showing each sign were then incorporated into the edition.

These editions then became the source material for the larger discussion of these works, and snapshots from them appear throughout the thesis.

The following example illustrates:

**Issues of Notation:** It was not possible to create a separate font for each unusual accidental sign so that I could insert the necessary sign with my notation software. As a result, I adopted the
use of an “x” to indicate the unusual sign, and left the job of illustration up to the photographic image.

When an inflection signed with an unusual accidental in one voice would likely cause the inflection of a second unsigned pitch, I follow accepted practice for indicating an editorial inflection; see m.13 of the example below:

Regarding the round- and square-b, I transcribe them as they are signed in their original sources. This involves no change of understanding with regard to the round-b, since its function has remained the same over the past thousand years. The medieval square-b, however, had the power to inflect, and must be so interpreted. What this means to the reader of this document is that a pitch signed with a square-b such as this: c♯ does not signal what we today would call “c-natural.” Instead it signals the pitch a semitone below .d., as in measure 8 of the example above. (The square-b can also cancel a prior round-b, but in this motet, there is no prior sign to cancel.)

In the running text, I frequently refer to pitch with what is known as vox et littera, where .f. is the letter, and mi is the voice. In so doing, I am following the instructions that Marchetto gives in Lucidarium 8.1.9-10 (and credits to the otherwise unknown Richard of Normandy):
Wherever a square-b is set down, we sing mi; wherever a round-b is set down, we sing fa.¹

This letter and sign, when written thus [ c♯ ], are pronounced “cki” when spoken. The two are synonymous. On the other hand, this letter and sign, when written thus [ c♭ ], are pronounced “ckf” when spoken. And just as this [ c♯ ] does not indicate modern c-natural, neither does this [ c♭ ] indicate modern c-flat. In the language of hexachord solmization, “ckf” indicates that the pitch below is “bmi,” as per the rules of Richard of Normandy.

**Numbering Systems I: Herlinger’s Lucidarium and Vecchi’s Pomerium:** References in my text to statements in the critical editions of the *Lucidarium* and *Pomerium* appear as follows: 2.5.7. This numeric string is a shorthand that, if spelled out in full, would read Treatise 2, Chapter 5, Line 7:

⁷First, the whole tone has five parts and neither more nor less [quod primum est sciendum quod tonus habe quinque partes et non plures neque pauciores].

Herlinger’s system resets the chapter count at the start of each new Treatise, so that Treatise 2, Chapter 10, Line 20 is followed by Treatise 3, Chapter 1, Line 1 (or, 2.10.20-3.1.1). Vecchi’s system is similar, in that Treatise, Chapter, and Line are likewise numbered, but it differs from Herlinger’s in an important way: the Chapter numbers do not reset at the beginning of the next Treatise, but continue increasing in sequence, so that 2.10.20 would be followed by 3.11.1.

Fortunately, Marchetto’s crucially important testimony in *Pomerium* about accidental signs, especially the sign called *falsa musica*, is entirely contained in Treatise 4, so shorthand

¹“Ubiqunque ponitur  b quadrum dicimus voce mi; ubicunque vero  b rotundum dicimus voce fa.” Herlinger, *Lucidarium, 274.*
references in this document to Vecchi’s critical edition and that of Herlinger are identical in format.

**Numbering Systems 2: Graphics:** The graphic examples in this thesis are numbered by Chapter, using Roman numerals, followed by an Arabic numeral indicating its sequence in the chapter. Thus, II.4 indicates the fourth example of Chapter II, etc. The graphic examples that appear in the Introduction have only sequence numbers.
A. Introduction

Seven theoretical documents, written between the early fourteenth and the early fifteenth centuries attest to the use of microtones in late-medieval polyphony. In ascending order of date, they are:

1. Marchetto of Padua\(^1\) *Lucidarium*; c.1317-18
2. Marchetto of Padua\(^2\) *Pomerium*; c.1319
3. Guido frater\(^3\) *Ars musice mensuratis*; c.1330?
4. Filippotto da Caserta\(^4\) *Regule contrapunctus*; c.1375?
5. Berkeley MS\(^5\) *Tonus dividitur in 3 partes*; 1374


\(^2\) As with the *Lucidarium*, the first modern edition of the *Pomerium* is *Scriptores ecclesiastici de musica sacra potissimum*, ed. Martin Gerbert, ibid., 3:121-188. The critical edition of *Pomerium* is Joseph [sic] Vecchi, *Marcheti de Padua Pomerium* ([Rome]: American Institute of Musicology, 1961). An unpublished translation into English of the *Pomerium* exists, but short of traveling to St. Louis (where the original is kept) or to Cambridge, MA (where Harvard Univ. has a microfilm of it), it is impossible to view; see Ralph Clifford Renner, “The *Pomerium* of Marchettus of Padua: A Translation and Critical Commentary” (master's thesis, Washington University, 1980). A more accessible edition is the recent translation into Italian (plus commentary), see n.1 above.


\(^4\) The three recensions of the *Regule* are: Seville, Biblioteca Capitular y Colombina, MS 5-2-25, ff. 95v-97r[S]; Rome, Biblioteca Vallecclliana, MS B 83, ff.65r-68r [R]; and Florence, Biblioteca Medicea Laurenziana, MS Ashburnham 1119, ff.52r-52v [F\(^1\)] and ff.77v-78v [F\(^3\)].


A more recent, more complete edition (with critical apparatus) based on all three sources is Pier Paolo Scattolin, “Le *Regule Contrapuncti* di Filippotto da Caserta,” in *L’Ars Nova Italiana del Trecento*, vol. V, ed. Agostino Ziino, 231-244 (Palermo: Enchiridon, 1985). Scattolin observes in his commentary that the Florence source is incorrectly inventoried in RISM B/III/2; see his commentary, pp.231-32 for corrections and disambiguation.

Gilbert Reaney’s entry on Filippotto in the 2001 edition of the *New Grove*, includes Scattolin’s 1985 edition in the bibliography, but does not incorporate Scattolin’s corrections in the text and list of the possible writings of Filippotto da Caserta.

An eighth document diagrams the division of the tone into a series of non-Pythagorean intervals, illustrates the accidental signs used to distinguish them, and identifies the name of the interval so inflected:

8. Frater G. de Anglia⁸ (diagram): f.9v US-Cn MS Case 54.1; date of MS, 1394

Of these, only the first, Marchetto’s Lucidarium, explains in text and demonstrates in notated examples how a microtonal interval called diesis could be incorporated into the framework of what was an otherwise a strictly diatonic practice.

In the earliest, most accurate recension of Lucidarium—the Ambrosiana copy (siglum M)—these inflections are indicated by a special accidental sign, the importance of which cannot be overstated: it is clear, both from Marchetto’s text, and from his notated examples, that the purpose of this sign is to distinguish the microtone he calls diesis from the Pythagorean minor semitone, which had long been signaled by the square-b: [\#]. What this suggests, therefore, is that were we to encounter Marchetto’s sign in an early fourteenth-century motet and signed so as to inflect a progression conforming to Marchetto’s examples, we ought to regard it as a possible microtonal inflection. Yet prior to the current study, no search for this sign has been conducted, and no instance of it identified. And for good reason: until very recently, no one knew for sure what Marchetto’s sign even looked like.

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authorship of Treatise Four that was unknown in 1974, and which is a necessary correction to Ellsworth’s Viator article.

⁶ Johannes Ciconia and Oliver B. Ellsworth, Nova Musica and De Proporcionibus (Lincoln: University of Nebraska Press, 1993);
⁷ Jan Herlinger, Prosdocimo de’ Beldemandi’s Plana musica and Musica speculativa (Urbana and Chicago: University of Illinois Press, 2008);
⁸ The manuscript is dated “Pavie. scriptum octobris 1391 per frater G. de Anglia” on f.6v; see RISM B/IV/4, 1169; see also Herlinger, Lucidarium, 35 nn. 30-31.
In **M**, Marchetto’s accidental is signed twenty-four times, and each time it is written thus: \( \text{[ } \text{]} \). Yet in the first printed edition of *Lucidarium* (published by Martin Gerbert in 1784), the notated examples that demonstrate microtonal inflections are signed, not with this sign \( \text{[ } \text{]} \), but with the square-b: \( \text{[ } \text{]} \), thus making nonsense of what had been perfectly coherent in Gerbert’s source—which turns out to have been **M**. It was not until Jan Herlinger’s critical edition of the *Lucidarium*, published in 1985, that an accurate reproduction of Marchetto’s sign became available, and his text restored to its original form.\(^9\)

That same year marked the publication of the twenty-fourth and final volume of *Polyphonic Music of the Fourteenth Century* (hereafter, PMFC), which was completed without the benefit of Herlinger’s edition of *Lucidarium* and its accurate picture of Marchetto’s special accidental.

This is unfortunate, because there are two early fourteenth-century motets inflected with Marchetto’s sign \( \text{[ } \text{]} \) in PMFC vol. 12, and a third from the second half of the fourteenth century in PMFC vol. 13. All three are examined in Chapter V.

In the first of these, the motet *Ave regina / Mater innocencie / Ite missa est “Joseph”*—long suspected of having been written by Marchetto—this accidental \( \text{[ } \text{]} \) is signed in ten places, and was perhaps meant to be signed in an eleventh.

In its PMFC edition, however, every instance of it has been transcribed with the sharp \( \text{[ } \text{]} \), thus changing the microtone that was originally indicated into a semitone.

The reader who is familiar with Herlinger’s edition of the *Lucidarium* may question why, in the discussion above, I name *diesis* (which, according to Marchetto, is one-fifth the

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\(^9\) Unless otherwise noted, all quotations from the *Lucidarium* are from Herlinger’s edition.

xxvii
width of the tone), but not *chroma*, (the four-fifths-tone chromatic counterpart to *diēsis*).\(^{10}\) The reason is that very little evidence of explicit chromatic motion survives in notated sources. I know of only eight such works, and none is signed with Marchetto’s sign; in Chapter VII, I examine what may be two of the earliest examples.

I found far more indication of non-Pythagorean inflections that do not involve chromatic motion. These make up the other fourteen works of polyphony under examination here: three works signed with *musica colorata* \[ \begin{smallmatrix} 1 \end{smallmatrix} \] (Chapter V); seven with the three-stroke square-b \[ \begin{smallmatrix} 2 \end{smallmatrix} \] (Chapter VI); and six with “dotted” signs \[ \begin{smallmatrix} 9 \end{smallmatrix} \] (Chapter VII).

This apparent imbalance, however, should not be interpreted as suggesting that chromaticism is somehow less than important. On the contrary, the chromatic and diatonic parts of the tone are as inseparable as night and day. The only real distinction—as I illustrate in the Technical Forward that immediately follows this introduction—is whether the chromatic part is made explicit, or whether it remains in the background.

The reader familiar with Herlinger’s *Lucidarium* may also wonder why I have just called this sign \[ \begin{smallmatrix} 1 \end{smallmatrix} \] *musica colorata*, when Herlinger says its name is *falsa musica*. The answer is my reading of the brief but very significant fourth tract in Book I of *Pomerium* (hereafter, *Pomerium* 4) entitled “Regarding a certain sign commonly called *falsa musica*.”

Jan Herlinger cites this tract as the basis for naming this sign \[ \begin{smallmatrix} 1 \end{smallmatrix} \] *falsa musica*, but my reading of it and my study of the sources has led me to the conclusion that *falsa musica* was a sign that looked like this: \[ \begin{smallmatrix} 2 \end{smallmatrix} \]. The name of this sign \[ \begin{smallmatrix} 1 \end{smallmatrix} \] was *musica colorata*. The details of how I arrived at these two conclusions are likewise laid out in the Technical Forward.

\(^{10}\) A transcription of Jan Herlinger’s Latin critical edition and English translation of *Lucidarium* Book 2, Chapters 5-8, Book 5, Chapter 6, and Book 8, Chapter 1 may be found beginning on p. lii.
If this is confusing, it is in part because *Pomerium 4* is Marchetto’s address to an audience who already knew its background. The story it relates—the account of a dispute over accidental signs between Marchetto and an unnamed collective of musicians, as told to a third party—begins in the middle. Thus there are important details that a contemporary audience would have known, but that we, reading Marchetto some seven centuries later, do not. Because of this, I present an annotated parallel Latin-English translation and analysis of this tract in Appendix 1, and on the basis of which I attempt to piece together the missing details to the best of my ability.

For the moment, it is important to state that the discovery of a second sign, and the restoration of what I believe to be the correct names of both signs, is of great significance: before this, we had no clue that there was a second sign whose purpose was also to signal a microtonal inflection. Neither did we know that Marchetto explicitly says that it signals *diesis*, and thus indicates its equivalence with the interval of the same name as signaled by his sign: $\frac{3}{2}$. Nor, without this re-ordering of the evidence, could we have known that there were musicians who, like Marchetto, embraced the use of a microtonal diatonic interval called *diesis*, but unlike him, seem to have been strongly opposed to the chromaticism that he was so enthusiastically promoting. I call these musicians the *falsa musicisti*, after Marchetto’s name for their sign, and I propose here that their practice was already extant when Marchetto wrote *Lucidarium*, and likely had been for some time.

The thrust of *Pomerium 4*, moreover, is that Marchetto wanted this older practice to be retired, and for the new chromaticism to take its place.

If my findings on the three-stroke square-b (which I believe to be *falsa musica*) and the dotted signs are representative, however, the older tradition remained in use through the end of
the fourteenth century and well into the fifteenth. It wasn’t until the sixteenth century, moreover, that experiments with chromaticism began in earnest.

Finally, the circumstances of a musical tradition that embraced diesis, but eschewed the major semitone (i.e., the chromatic semitone of Pythagorean tuning), suggests that the diesis of the falsa musicisti may have been the enharmonic diesis—the smallest interval of the Greek enharmonic genus—which, at half the width of the minor semitone, would have measured approximately 44 or 45 logarithmic cents. (Marchetto’s one-fifth tone diesis would have measured approximately 41 cents—a difference of 3-4 cents, which in the context of polyphony, was almost surely not audible.)

Use of the enharmonic diesis in plainchant has been suspected since the middle of the nineteenth century and debated for much of the twentieth. In the decade between 1990 and 2000, work of three scholars in particular has demonstrated beyond reasonable doubt that microtonal inflections in plainchant were present in the early eleventh century, and continued to be used into the thirteenth century—and in one case, into the fourteenth.

My research has uncovered a set of circumstances that suggest use of this interval may have crossed over from plainchant to polyphony as early as the 1240s: a two-voice conductus from the Florence Magnus liber, (siglum F) with an inflection signed by a very unusual sign [sqb+rd] that in its recension from the Las Huelgas codex (siglum Hu) is signed with falsa.

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11 Given that Marchetto had no way of knowing exactly, Jan Herlinger has suggested that it is probably best to take the 41-cent diesis as an approximation, in particular because a 955-cent wide major sixth “is impossibly large—closer to the modern minor seventh than to the major sixth”; see “Marchetto’s Division of the Whole Tone,” *Journal of the American Musicological Society* 34, no. 2 (1981): 209. See also Figure 10 of the Technical Forward, which is my demonstration of the tuning of Marchetto’s first example (Ex.3a) from Lucidarium, and which I based upon a 41-cent diesis and a 955-cent major sixth. Whether it is still possible to hear contrary motion in the progression in Fig.10b will require recreating it in sound and letting our ears decide.

musica[§]. A second motet, copied in 1326, has both the unusual sign seen in F and falsa musica inflecting the same progression.

If subsequent research discovers more instances of parallel circumstances, then it would suggest that microtonal inflections in polyphony may have been present as early as the mid-thirteenth century, rather than the early fourteenth, as has been thought up until now. This in turn might establish the possible boundaries of microtonal polyphony as early as c.1240, and perhaps as late as c.1440, and would place Marchetto roughly at the boundary of the first and second third of the phenomenon, thus putting his theory and contribution in an entirely new context.

* * * * *

As a result of a long series of mistakes and misunderstandings, the phenomenon of microtonal inflection in medieval polyphony is today only very incompletely understood.

Formerly, all we knew was this sign [¶], and by the wrong name. This in turn prevented us from identifying this sign and its name [§], and just as importantly, from recognizing those who used it and how what it signaled—which was diesis, only—was not identical to what this sign [¶] signaled, which was the very small diesis and its enormous chromatic counterpart, chroma.

A long series of misunderstandings in the transmission and interpretation of both the Lucidarium and the Pomerium has prevented us from effectively recognizing these signs, and even from knowing their proper names.

Between the first modern editions of these two treatises, published by Martin Gerbert in 1784 and Jan Herlinger’s critical edition and English translation of the Lucidarium in 1985, in
which this sign [♯] was accurately reproduced for the first time, virtually all known polyphony of the fourteenth and early fifteenth centuries was transcribed, edited, and published.

As a result, these signs—which are present in the practical manuscripts of the time—were uniformly transcribed with the sharp, and their inflectional significance changed from a microtone to a semitone.

The rehabilitation of these signs and the restoration of the microtones they were meant to signal will change the sound of medieval polyphony, which we have yet to fully hear.
B. Technical Forward

At some point during the first quarter of the fourteenth century, the Italian theorist Marchetto of Padua proposed a new conception of tonal space. In direct contravention of the musical authorities of his day, Marchetto states that the tone is divisible into five equal parts—each one-fifth part called a diesis. By summing this basic building block, he asserts that two unlike pairs of semitones may be formed. The first—three dieses and two, respectively—will replicate the Pythagorean major and minor semitones. The second—four dieses and one—will result in the non-Pythagorean semitones he calls chroma and diesis.

Following the demonstration of his five-fold division of the tone in Lucidarium Book 2, Marchetto presents examples of both pairs of semitones, starting with the four-fifths, one-fifth division, followed by the three-fifths, two-fifths division (or, diatonicum and enharmonicum, as he renames the Pythagorean major and minor). These two examples, shown below in Fig.1, are from the Ambrosiana recension of the Lucidarium (siglum M) which, according to Jan Herlinger, is the earliest, most complete, and most faithful copy of the Lucidarium to have survived, and was that which served as the basis of his 1985 critical edition and English translation. (All subsequent references to the manuscript sources of both Lucidarium and Pomerium should be understood as referring to M, unless otherwise noted.)

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13 In fact, they will not: if we interpret Marchetto literally and take diesis to be 41 cents in width, the major semitone will be about nine cents too large, and the minor, about eight cents too small, and assuming the ability to sing them, would have been unusable.

14 The images were captured from a microfilm of M; the numbering of the examples follows that of Herlinger’s numbering in his 1985 critical edition. The exception to this is the inclusion of letters to identify the individual parts, which are the addition of the present author.
Clearly visible in both examples is chromatic motion—two notes on the same line or in the same space separated by an accidental sign—a phenomenon that Marchetto calls “permutation.” What distinguishes the non-Pythagorean from the Pythagorean division are the signs used: *chroma* and *diesis* are signaled by this sign [♯]; *diatonicum* and *enharmonicum* by the round- and the square-b: [♮, ♯].

Marchetto does not tell us when or where this phenomenon arose, but his account reads as if he is its author. That he may not be is suggested by a single statement in *Lucidarium* 8.1.17, where he makes an obscure reference to some other persons who also divide the tone chromatically, and who apparently use a different accidental sign to signal it: “There are some

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who write the square-b and another sign commonly called falsa musica… in the same manner, totally ignoring their true and different properties.”

In the introduction to his edition of the Lucidarium, Jan Herlinger notes that in Pomerium 4.17, this sign ["] is illustrated and explained as a square-b with its vertical strokes reversed, so that the stroke on the left descends below the quadratum, and that on the right ascends above. Then, noting that Marchetto’s instructions in Lucidarium 8.1.14 for drawing the square-b state that the stroke on the left ascends, while that on the right descends, i.e.: ["], he concludes that this ["] is the third sign referenced in 8.1.17, and must therefore be falsa musica.\[16\]

My reading of Lucidarium and Pomerium, informed by M, by my own translation of Pomerium 4, and by my quest to understand Marchetto’s reference to the “third sign,” suggests that there are at least four problems with this interpretation.

The first is that it is far from clear that these signs: ["] and ["] are written “in the same manner.” While they do share the same central parallelogram, their vertical strokes are disposed in precisely the opposite manner, and this makes them at least as much unlike as they are alike, if not more so. Furthermore, “in the same manner” would seem to suggest, at a minimum, that these signs be more alike than not, and perhaps even very closely alike.

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\[16\] “Sunt enim nonnulli qui ipsum . et tercium signum, quod, ut predicetur, a vulgo falsa musica nominatur, eodem modo figurant, propria proprietatem et diversam eorum penitus ignorantes.”

\[17\] “The Lucidarium text of [M] is superior to that any other. It is complete except for the omission of isolated words and phrases, of the two diagrams from Lucidarium 2.4 illustrating division of a continuous quantity, of one musical example, and of the acknowledgment of aid to Syphans of Ferrara; and it shows few errors in comparison to the other manuscripts. It is the only manuscript presenting the complete text of the Lucidarium in which the square . and the falsa musica sign are differentiated in the musical examples precisely as Marchetto prescribed. Marchetto’s instructions for drawing the . are as follows: ‘[Let] the line that is on the left of this . rise above it and that on the right (added for the sake of symmetry) be protracted below it in this manner’ (Lucidarium 8.1.15-16); the example following shows this sign: . For the falsa musica sign he said, ‘Let this sign be made with a certain property exceeding [that of] the square ., as here, . . It suffices to draw lines protracted further in it than in the square ., especially— in this sign— upward and on the right, the side that signifies perfection.’ Thus the square . and the falsa musica sign are . and .; and they are distinguished in the musical examples of M with almost total consistency.” Herlinger, Lucidarium. 26-27.
The second problem is that nowhere in *Lucidarium* is this sign [_DGRAM] ever explicitly named. Marchetto does state in *Lucidarium* 8.1.4 that there are three accidental signs: the square-b [\[\text{square-b}\]], the round-b: [b], and a third sign “commonly called falsa musica.” Given that in all of *Lucidarium*, there are only three signs illustrated, and that only this sign [_DGRAM] goes unnamed, it follows that this [_DGRAM] is *falsa musica*. But we arrive at this conclusion by process of elimination, and there are circumstances that call it into question. Of the approximately 1600 words that Marchetto devotes to his two pairs of semitones, to his investigation of dissonance, and to the subject of accidental signs—during which this sign [_DGRAM] is illustrated twenty-four times—almost ninety percent of the text and every example of this sign [_DGRAM] has passed before the name *falsa musica* appears for the first time. So while there may be no other choice but to call this [_DGRAM] *falsa musica*, the circumstances that lead to this conclusion are less than convincing.

The third problem is evident upon close examination of *Pomerium* 4.17, where both a third sign and a fourth are illustrated. These are shown in Fig.2 below in the order of their appearance: the third sign [\[\text{third sign}\]] is visible at the end of the last line of Fig.2a, the fourth [_DGRAM] in the margin of 2b.
The fourth problem is really two problems in one: which of these signs is falsa musica, and what is the name of the other sign. It is the easiest to resolve: Marchetto announces his intention to rename and redraw that sign “commonly called falsa musica” in the introduction to Pomerium 4, and a close reading of his text shows that the renaming occurs in 4.15.2, and the redrawing in 4.17.15. As it happens, this sign [-src] is falsa musica, and this [ ] is musica colorata. His text also connects the unnamed others mentioned in Lucidarium 8.1.17, i.e., those who write the square-b and the third sign “in the same manner,” with falsa musica.  

(These are the musicians whom I call the falsa musicisti, after the sign they use.)

The text in Fig. 2a above explains that falsa musica [-src] signals an interval called diesis, and that it is half the intervallonic width of the minor semitone. Because the quadrangle of this sign [ ] was understood to represent the width of the minor semitone, the sign for an interval half its size would therefore be a bisected quadrangle—in other words, a triangle: [ ]. But there is an important distinction underpinning these images: Marchetto takes for granted that his reader will understand that this [ ] is an icon used in text to represent an object that, when notated on staff lines, looks like this: [ ]. We know this because for the square-b we have both

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18 The recognition of others who used microtonal intervals in their polyphony and had a separate sign to signal them is in many ways the most significant discovery of this thesis, the ramifications of which echo throughout.
its icon [♀] and the sign itself [/lic.]. For falsa musica, we are less fortunate: all Marchetto gives us is its icon [♀].

What, then, might falsa musica have looked like when written on the staff? Fig.3a below illustrates Ex.14 from Lucidarium, in which Marchetto demonstrates how to write the square-b on staff lines. The notated sign [/lic.] is visible on the staff, and its icon [♀] may be seen at the end of the first line of text beneath. In Fig.3b, the sign and its icon are enlarged and juxtaposed one above the other so as to illustrate the fundamental difference between them: in order fit within lines ruled for text—the height of which is set to accommodate letters, not accidental signs—the icon has only an ascending vertical stroke on the left: [♀]. But when the square-b is written on staff lines and is not constrained along its vertical axis, it has both ascending and descending strokes: [/lic.].

Given that falsa musica was derived from the square-b, it probably also had a descending vertical stroke on the right. What its quadratum may have looked like is suggested by the sign in Fig.3c: a parallelogram with a third diagonal dividing it in two. And while this icon [♀] and this sign [♀] are graphically different, they are related by the following: if an icon “represents its object by virtue of having some character in common with the object,”¹⁹ then the characteristic that links this [♀] and this [♀] is the bisection of the quadratum.

More intriguing is that a sign that closely resembles this [♀] does in fact appear in M, though not in the recension of Pomerium, as might be expected, but in Lucidarium Ex.3b, where it is the second sign to appear among the three examples of chromatic division of the tone. It can be seen in full in Fig.1 above, and enlarged and juxtaposed above its text icon in Fig.3c below.

[.] In the introduction to his edition, Jan Herlinger notes that there are twenty-four instances of this sign \([\text{\textregistered}}\) in the examples of *Lucidarium*, but that there should have been a twenty-fifth. Though he neither describes nor illustrates the erroneous twenty-fifth sign, it is the bisected square-\(b\) in Fig.3c above. Thus, whether by accident or specific intent, a sign that may be *falsa musica* does in fact appear in M.

The argument that I am making here, therefore, is that a sign with a third diagonal stroke bisecting its quadratum is the notated version of the icon Marchetto shows us in *Pomerium* 4.17.2: \([\text{\textregistered}}\). These signs, which were signed in fourteenth-century manuscripts of polyphony (see Fig.4 below), but whose presence has never before been noticed or questioned, should be called *falsa musica*, and the possibility that they were used to inflect a microtone, rather than a semitone, investigated. It is the intent of this thesis is to do so.
A fifth problem that could not have been raised prior to this point, is Marchetto’s assertion in *Pomerium* 4.17 that the *falsa musicisti* share the same five-fold division of the tone he describes in *Lucidarium* 2, and that there is but one difference between them: their sign (i.e., *falsa musica*) which Marchetto finds unsuitable and wants to replace with his sign (i.e., *musica colorata*). Yet a close reading of his text suggests that the two parties were not nearly as close as Marchetto would have us believe. What they shared in common was the microtone *diesis*. Chroma and the phenomenon of permutation—chromatic division of the tone—was either inconceivable to the *falsa musicisti*, or distasteful, or both.

It may be difficult for us—we who have been trained in a system in which chromatic division of the tone is essential to our understanding of tonal space—to conceive of a musical world in which chromaticism did not exist. Yet such a world is apparently what the *falsa musicisti* would have known. Chromatic motion had been banned since the early eleventh century, when the anonymous author of the *Dialogus de musica* and inventor of the round- and square-♭ (hereafter, Pseudo-Odo), described the space between b♭ and bmi as a kind of no-man’s land that must be avoided, either by progressing a♭♭-c or a♭♭-c (i.e., TS, or ST, as shown in Fig. 5a below). This was in fact the original meaning of the two shapes of the letter

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20: “The first and second ninth steps, round-♭ and square-♭, form with respect to one another neither a tone nor a semitone, but from the first ninth step [♭] to the to the eighth, .a. is a semitone and to the tenth, .c. a tone; conversely, from the second ninth step, [♭♭], to the eighth, .a., is a tone and to the tenth, .c., a semitone. Thus one of them is always superfluous, and in any chant you accept one and reject the other, in order not to seem to be making a tone and a semitone in the same place, which would be absurd [Prima vero nona ♭ & secunda nona ♭♭: ad se invicem neque tonum neque semitonium faciunt, sed a prima nona ♭♭: ad octavam .a. est semitonium; ad decimam .c. tonus. Secunda vero nona ♭♭: ad octavam a. e contrarario est tonus, ad decimam vero .c. semitonium praestat. Ideoque una earum semper superflua est, & in quocumque cantu unam recipis, aliam contemnis, ne in eodem loco, quod absurdum est, tonum & semitonium facere videaris].” English translation: “Pseudo-Odo of Cluny,” in *Source Readings in Music History*, v.2, *The early Christian period and the Latin Middle Ages*, trans. Oliver Strunk, ed. James McKinnon. Rev. ed. New York: Norton, 1998: 88-100 [92]. Latin edition: *D. Oddonis dialogus de musica*, ed. Martin Gerbert, *Corpus scriptorum I* (Typis San-Blasianis, 1784), 254.
“b”: the round-b signaled a semitone below and a tone above; the square-b, a tone below and a semitone above.

<table>
<thead>
<tr>
<th>Fig.5: The Minor Third Between a. and c.</th>
<th>The Greater and Lesser Perfect Systems</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Diagram of minor third between a and c." /></td>
<td><img src="image" alt="Diagram of greater and lesser perfect systems" /></td>
</tr>
</tbody>
</table>

Pseudo-Odo’s proscription of chromatic motion was soon thereafter echoed by Guido of Arezzo,\(^{21}\) who notes that the round-b was added to the scale in order to form a perfect fourth with the F below.\(^{22}\) This is a reference to the Synemmenon tetrachord of the Greek Lesser Perfect System (i.e., LPS), which was how the Greeks created their equivalent of bfa: *trite synemmenon* (see Fig.5b above). The understanding that the round-b did not exist on the Greater Perfect System (GPS), and therefore had to be “added,” as Guido puts it, is expressed in both of the gamuts in Fig.6 below—and especially in 6b—where the round-b is offset from the rest of the pitch letters to either side.

By the early twelfth century, the proscription of chromatic motion had been built into the system of hexachordal solmization: because there is no syllable in a second hexachord upon

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\(^{22}\) “Moreover b, which is less regular and which is called ‘added’ or ‘soft,’ has a concord with F, and is added because F cannot make a concord with bb a fourth away, since it is a tritone distant [b vero rotundum, quod minus est regulare, quod adiunctum vel molle dicunt, cum F. habet concordiam; et ideo additum est, quia F. cum quarta a se b tritono differente nequibat habere concordiam;].” Ibid.
which to pivot, mutation from bfa to bmi is impossible (see Fig. 6 below). In both images, the isolation of bfa from bmi is evident.

And in the fourth quarter of the thirteenth century, Jerome of Moravia, writing from Paris, c.1280, reiterates in words what the two images above make manifest: “You may be sure that the fa of bfa does not mutate to the mi of bmi, or vice versa.”

It is against this background that what Marchetto proposes in *Lucidarium 2*—which was his advocacy of the four-fifths-tone chromatic interval that he calls *chroma*—should be understood.

What was not new when Marchetto was composing *Lucidarium* was *diesis*. *Diesis* was recognized in ancient times as the smallest interval of the enharmonic *genus*. It was described by Boethius, and it seems to have persisted in plainchant as late as the fourteenth century, despite the lack of any theoretical support.

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24 Martin West indicates the smallest interval of the enharmonic genus contains two *diaschisma*, which, when summed, equal the width of the minor semitone. He cites Eratosthenes’ ratios for these *diaschismae* as either 40:39 (44 cents) or 39:38 (46 cents); (I use the first ratio in Fig. 9b below). Ancient Greek Music (Oxford: Oxford University Press, 1992), 236-37.

Manuel Ferreira, in his 1997 thesis, enumerates every medieval author “active between the ninth and the twelfth centuries who refers to the Greek enharmonic genus … [these] include Martianus Capella’s commentator Remigius of Auxerre, (fl. c. 860-908), Gerbert of Aurillac (late tenth century), Odorannus of Sens (985-1046), Berno of Reichenau (d.1048), Arbo (fl. c. 1068-78), Heinricus of Augsburg (d. 1083), Frutolf of Michelsberg (late eleventh century) and a fair number of anonymous: the Pseudo-Hucbald, the Pseudo-Remigius, the Pseudo-Adelbodus, Gerbert Anonymous II, and the authors of the following texts: *Boetius vir eruditissimus; De mensura monochordi; Dulce ingenium; In primis divide; Monocordum divisurus; Quaestiones; Quinque gradus symphoniarum; Si volueris; Studiosis; Totam tabulam divide; Tractatus de intervallis*. Heinricus, Frutolf and the author of the *Questiones* treatise echo Macrobius’ comment about the desuetude of the enharmonic genus. Remigius, Regino of
Diesis is also mentioned by Jerome of Moravia who, in the same treatise as above, notes the following: “The French, contrary to other nations, are fond of mixing non-diatonic intervals with ecclesiastical music, particularly through the association of the enharmonic diesis with the diatonic genus.”

If we take these two statements of Jerome—the first attesting to the still-current ban on chromaticism; the second, noting the mixture of the enharmonic diesis into the diatonic genus—then we have a near-contemporary description of how the falsa musicisti might have understood tonal space: chromaticism is forbidden; enharmonism is allowed.

Jerome’s observation raises an important question: given that thirteenth-century music theory does not support the use of intervals smaller than a semitone, how does one mix a

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Prüm (c. 900), Odorannus, Berno, Frutolf, the Pseudo-Adelbodus, Gerbert Anonymous III, the Boetius vir, the Dulce ingenium, the Monocordum divisurus, the Quaestiones, the Si volueris, the Studiosis, the Tractatus de intervallis and an interpolation in Chapter X of Guido’s Micrologus speak of the diesis as half a semitone or a quarter-tone. “Music at Cluny: The Tradition of Gregorian Chant for the Proper of the Mass; Melodic variants and Microtonal Nuances” (PhD diss., Princeton University, 1997), 181.

In the introduction to her facsimile of the plainchant manuscript Utrecht, University Library MS Uu-406, Ike de Loos notes the presence of special neumes that she says “appear to be alterations of the normal (diatonic) pitches by less than a half-step.” She goes on to note that while the while French sources exhibiting this phenomenon are few in number, “Dutch sources from the 12th and 13th century show that this was a normal practice, at least locally. Even in Utrecht 407, dating from the first half of the 14th century, [these neumes] can be observed occasionally. (emphasis added); Ike de Loos and Ruth Steiner, Utrecht, Bibliothek der Rijksuniversiteit, MS 406 (3.J.7), (Ottawa, Canada: Institute of Mediaeval Music, 1997), xvii-xviii.

Finally, Shai Burstyn offers one set of reasons that mention of microtones disappeared from theoretical discourse: “The theoretical prescription of a scala need not necessarily be taken to reflect musical practice. This is notoriously so in musical cultures which subdivide the octave into a large number of distinct small intervals. In practice, rather than octaves subdivided into 22 or 17 tones (as in Indian and Arab-Persian music theory respectively), these musical cultures employ a considerably smaller number of stable tones, while the rest are in fact intonational variants whose employment is dictated by the melodic framework in use. This was precisely the musical situation early European theorists strove to get away from. They employed the monochord, as well as various ingenious arithmetical calculations, in order to achieve an unequivocal intonation for all tones. This is why they were so preoccupied with definitions of intervals. Seen in a wider historical perspective, their treatises—practical, theoretical, or both—reflect the efforts to sever western music from its eastern heritage.” (emphasis added) “The Modescape of Medieval Europe: Towards a More Realistic View,” in Modality in the Music of the Fourteenth and Fifteenth Centuries, ed. Ursula Günther, Ludwig Finscher, and Jeffrey Dean (Neuhausen-Stuttgart: American Institute of Musicology, Hänsler-Verlag, 1996), 2-3.

25 “Gaudent insuper, cum modum organicum notis ecclesiasticis admiscent, quod etiam non abjicit primus modus, ne non et de admixtione modorum duorum generum relictorum. Nam diesim enharmonicam et trihemitonium chromaticum generi diatonico associat. Semitonium loco toni et e converso commutant, in quo quidem a cunctis nationibus in cantu discordant.” Jerome of Moravia, Tractatus de musica, 187. The translation quoted above is from Ferreira, “Music at Cluny,” 185.
micròtone into an otherwise diatonic scale? Or, to pose this question in another, more modern form: given that the scale depends upon an octave spanning 1200 logarithmic cents, what must happen when we substitute the enharmonic diesis—an interval measuring approximately 45 cents—for the minor semitone, an interval measuring 90 cents? In other words, what becomes of the other 45 cents? The falsa musicisti had one response to this question; Marchetto had a second, very different response.

The response of the falsa musicisti is illustrated in Figs.7-8 below. Fig.7a illustrates a progression of minor third to perfect fifth. The vertical red line from .d. to .f. shows the ratio of the Pythagorean minor third (32:27) and its width, expressed in cents (i.e., 294); the oblique red line from .f. to .g. shows the ratio of the tone (9:8) and its width in cents (i.e., 204). The lines in blue that connect .d. to .c. and .c. to .g. represent those intervals that remain stable throughout all four examples. The lines in red are those intervals that change. It is important to note that while the oblique lines, both blue and red, appear to occupy some span of time, the change they represent is instantaneous: it is the vertical intervals that represent what we actually hear.

In Fig.7b, as the square-b inflects .f. and changes it from ffa to fmi, the distance of fmi-g is reduced from a tone to a semitone. Given that the Pythagorean tone spans 204 cents, and the Pythagorean minor (i.e., diatonic) semitone spans 90 cents, what happens to the 114-cent difference, which is the width of the Pythagorean major (i.e., chromatic) semitone? The answer is that these 114 cents are transferred to the vertical d-f interval. This can be seen by comparing the measurements of Fig.7b to Fig.7a, in which the oblique f-g interval is reduced from 204 to 90 cents, and the vertical d-f interval is simultaneously increased from 294 to 408 cents—in both cases, a difference of 114 cents.

These two examples reflect a fundamental reality of the physics of music, which is that the scale is a closed system: what is subtracted from one interval must be added to another if its
architecture is to be maintained.\textsuperscript{26} This fact can be checked in Fig. 7b, either by adding the ratios (32:27 \times 9:8 = 4:3), or by summing the widths in cents (408 + 90 = 498). This reality, moreover, is expressed by the oblique blue line from .d. to .g., which demonstrates that, no matter how .f. is tuned, the sum of the vertical and oblique components must always result in the ratio of 4:3 (and therefore span 498 cents). This holds true for all four examples in Figs. 7 and 8.

![Fig.7: Division of the Tone f-g into the Minor Semitone f\textsuperscript{\#}-g (i.e., fmi-gfa)](image)

Fig. 8 below continues the demonstration above, but the f-g interval is now inflected by two of the three unusual signs investigated in this thesis; the third, \textit{musica colorata}, is shown below in Fig. 9. The first sign, a square-b with a dot in its quadratum, has no name, but may

\textsuperscript{26} The understanding that the superstructure of tonal space has to be fixed is implicit in a statement by Magister Lambertus (c.1270), who argues that “the practice of \textit{falsa musica} or \textit{falsa mutatione} was ‘necessary, because of the search for good consonance’ (Coussemaker\textit{S}, i, 258a) and who defined it as making a semitone out of a whole tone or vice versa.” s.v Theory, Theorists, New Grove Dictionary, 2\textsuperscript{nd} ed. (Claude Palisca, Ian D. Bent.) What Lambertus is referring to is the necessity to divide what is otherwise a tone on the gamut so as to form a diatonic semitone, solmized “mi” to the pitch immediately above, solmized “fa.” What he leaves unsaid is what becomes of the chromatic semitone that remains. The answer is expressed in Figs. 8a-b below.
have been used to signal an interval approximately one third the width of the tone. The second—which I have determined to be falsa musica—signals an interval approximately half the width of the minor semitone, or about 45 cents.

What is demonstrated between Figs. 7a and 7b above—that as the oblique interval narrows, the vertical interval expands—holds true for the examples of Fig. 8. What is different is that, whereas the f-g interval in Fig. 7b is a Pythagorean minor semitone spanning 90 cents, in Fig. 8a this interval is narrowed to 63 cents, and in Fig. 8b, to 44 cents. I take these intervals to be microtones—that is, intervals audibly smaller than a semitone.

This narrowing of the oblique f-g interval—from 90 cents in Fig. 7b to 63 cents in Fig. 8a, and to 44 cents in Fig. 8b—results in the shift of an additional intervallic width of 27 and 45 cents, respectively, to the vertical d-f sonority. These parts \((27 + 114 = 141 \text{ cents}; 45 + 114 = 159 \text{ cents})\) would sound as enormous chromatic semitones spanning some 70% to 80% the width of the tone were they to be made discrete. But because their width instead becomes part of the vertical interval, the chromatic element in these progressions remains in the background. What results instead is a very wide non-Pythagorean third, and a very narrow mi-fa interval.

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27 A division of the tone into thirds is demonstrated in the fourth treatise—*Tonus dividitur in 3 partes*—of the Berkeley Manuscript (*Berkeley 744*), discussed in Chapter VII.

28 I take as the basis for my definition, that of Manuel Pedro Ferreira, from p. 162 of his 1997 Princeton University dissertation “Music at Cluny,” where he begins to discuss the evidence for microtonality in plainchant: “The issue of chromaticism will not be explored here. I will only attempt to demonstrate that intervals distinctly smaller than the semitone were used by themselves and conceptualized as distinct entities which could be alternated with diatonic intervals.” (emphasis added). On the basis of an article by Ronald Woodley in Music Theory Online in which he generates sound files for a two-voice polyphonic progression involving mutation via: a) fifth-tone division; b) quarter-tone division; and c) third-tone division, I have substituted “audibly” for Ferreira’s “distinctly,” since the differences—as it turns out—are indeed audible. (The links to the files in question appear on pg. 32 of “Sharp Practice in the Later Middle Ages”: www.mtosmt.org/issues/mto.06.12.2/mto.06.12.2.woodley.pdf)
The point of this demonstration is that the same process underlies each progression in the examples above: the widening of the vertical interval results in a corresponding narrowing of the oblique interval and vice versa. This holds true, moreover, whether the intervals are Pythagorean or non-Pythagorean. What these examples demonstrate, therefore, is how the falsa musicisti would have been able to mix the enharmonic diesis “into the diatonic genus.”

Marchetto’s response to the issue of chromaticism, on the other hand, was to embrace it, which he does through a process he calls permutation. Unlike mutation, which requires only one progression, a permutation requires two: the first, perfect-to-imperfect (see Fig.9a below); the second, imperfect-to-perfect (Fig.9b). The second part of this process is a mutation—essentially the same as those in Figs.7-8 above—and with which the falsa musicisti would have been familiar. It was the first progression, with its enormous chromatic semitone, that was evidently unfamiliar to them.
The theory of permutation that Marchetto advances in *Lucidarium* must have been a significant development in its day, and there must have been enough interest in exploring its possibilities that it was worth Marchetto’s time to create a theoretical basis to explain it. Yet there is very little evidence of permutation in the sources: I know of just eight such works in which there is explicit chromatic motion, and none is inflected with *musica colorata*. (The two works that hew closest to the examples from *Lucidarium* are analyzed in Chapter VII.)

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Fig.9 — Ex.3a from *Lucidarium*: Marchetto’s First Demonstration of Permutation

The three antiphons from the Padua *Processionales* are transcribed in Giuseppe Vecchi, *Uffici Drammatici Padovani*, (Florence, 1954) pp.26, 63, and 110, and accompanied by b/w facsimile of C56. Photographs of the three antiphons were re-issued in *I più antichi monumenti sacri italiani*, G. Vecchi and F.A. Gallo, eds., (Bologna, 1968), pl.CVIII-CIX, CCII-CXIII, and CXVIII. Modern edition of *Iste formosus*, only, in PMFC v.12, p.114; (see Chapter VI.4 for my transcriptions of *Ave gratia plena* and *Iste formosus*, including the unusual accidentals that inflect the chromatic progressions, none of which are reproduced in the 1954 or 1968 facsimiles with anything like the necessary degree of clarity to accurately see them.

Modern editions of the remaining five works were published, respectively, in: PMFC vol. xii, pp. 102-03 (*Benedicamus domino*); CMM, viii/2, pp.39-42, and PMFC vol. viii, pp.53-55 (*L'antico dio Biber*); PMFC vol. vi, pp.74-75 (*Sedendo all'ombra*); PMFC vol. xvi, p.159 (*Deo gratias*); and *Die chansons von Gilles Binchois*, W. Rehm, ed. (Mainz, 1957), p.2 (*Adieu jusques je vous revoye*).
C. Visual Indices of the Signs

*musica colorata*

Chapter V examines three motets in which Marchetto’s *musica colorata* sign is used to inflect progressions of imperfect to perfect consonance.

![Visual Index of *musica colorata*](image)

Images of the signs from these three motets are shown in tiles c., d., and e. of Fig.10 above, and which are arranged in chronological order of the sources, which are identified below.

<table>
<thead>
<tr>
<th>Sources of the <em>musicae coloratae</em> in Fig.10</th>
<th>Siglum</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. <em>musica colorata</em> (as first illustrated in <em>Pomerium</em> 4.17.15)</td>
<td>M, f.85r</td>
</tr>
<tr>
<td>b. <em>Ave regina</em> / <em>Mater innocencie</em> / <em>Ite missa est</em> “Joseph” (motet, attrib. Marchetto)</td>
<td>Ox 112, ff.61v-62v</td>
</tr>
<tr>
<td>c. <em>Ave corpus sanctum</em> (Venetian ceremonial motet; Anon.)</td>
<td>Vmg, f.84r</td>
</tr>
<tr>
<td>d. <em>Marce Marcum imitaris</em> (Venetian ceremonial motet; Anon.)</td>
<td>Gr 219, ff.5v-6r; MFA, f.2</td>
</tr>
<tr>
<td>e. <em>Fumeux fume par fumee</em> (Rondeau; Solage)</td>
<td>Ch, f.59r</td>
</tr>
<tr>
<td>f. <em>Adieu jusques je vous revoie</em> (Rondeau; Binchois.)</td>
<td>EscA, f.56r.</td>
</tr>
</tbody>
</table>

The enormous vertical span of *musica colorata* in a., with its reversed vertical strokes (i.e., left-down, right-up) is matched by the sign in b. In d., the sign has a bisecting diagonal, suggesting a possible cross-pollination from *falsa musica*.
**The Three-stroke Square-b (a.k.a falsa musica)**

Chapter VI examines seven polyphonic works signed with the three-stroke square-b, which I believe to be what the sign Marchetto calls *falsa musica* looked like when it was notated on staff lines.

**Fig.11: Visual Index of the Three-stroke Square-b (a.k.a, falsa musica)**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a. 1326-27</td>
<td>b. 1326-27</td>
</tr>
<tr>
<td>c. first half of 14th c.</td>
<td>d. first half of 14th c.</td>
</tr>
<tr>
<td>e. mid-14th c.?</td>
<td>f. mid-14th c.?</td>
</tr>
<tr>
<td>g. mid-14th c.?</td>
<td></td>
</tr>
</tbody>
</table>

The signs illustrated in Fig.11.a-b above above are from the MS fr. 571 recension of two of the political motets from the Interpolated *Roman de Fauvel* (Fr 146) that were copied into a manuscript prepared in 1326 for the future Edward III of England. The third and fourth signs are from a conductus-motet and a conductus, respectively, from the Las Huelgas codex (Hu). The fifth, sixth, and seventh signs are from the collection of mid-fourteenth century polyphony from the Cathedral of Durham, England.

<table>
<thead>
<tr>
<th>Sources of the Three-stroke square-b (falsa musica) in Fig.11</th>
<th>Siglum</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. <em>Ludowice / Servant regem / Rex regum</em></td>
<td>Fr 571, f.144r</td>
</tr>
<tr>
<td>b. <em>Qui secuuntur / Detractor est / Verbum iniquum</em></td>
<td>Fr 571, f.144v-145r</td>
</tr>
<tr>
<td>c. <em>Mundi dolens</em>, (3vv conductus motet, Anon.)</td>
<td>Hu, ff.89r-90r</td>
</tr>
<tr>
<td>d. <em>Flos de spina</em>, (2vv conductus, Anon.)</td>
<td>Hu, ff.134r-136v</td>
</tr>
<tr>
<td>e. <em>Kyrie eleison</em>, (Anon.)</td>
<td>DRc ii, recto</td>
</tr>
<tr>
<td>f. <em>Gloria Spiritus et alme</em>, (Anon.)</td>
<td>DRc Com, recto-verso</td>
</tr>
<tr>
<td>g. <em>Jesu fili Deus / Ihesu fili virginis / Jesu lumen veritatis</em> (3vv motet, Anon.)</td>
<td>DRc 20, f.2r</td>
</tr>
</tbody>
</table>
Signs with dots

The third type of unusual accidentals examined herein are those signs with “dots” in their quadratum; they are the subject of Chapter VII.

Fig. 12: Visual Index of Signs with Dots

<table>
<thead>
<tr>
<th>Sources of the Signs with Dots in Fig. 12</th>
<th>Siglum</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Tonus dividitur in 3 partes (Treatise proposing a threefold division of the tone)</td>
<td>Berkeley 744, ff.59v-60r</td>
</tr>
<tr>
<td>b. Sus une fontaine (3vv Virelai; Johannes Ciconia)</td>
<td>Ox 229, f.56v</td>
</tr>
<tr>
<td>c. Iste formosus (2vv Antiphon for Ascension; Anon.)</td>
<td>Pad C55, f.51v</td>
</tr>
<tr>
<td>d. Prima virtute e costringer la lingua (3vv madrigal; Jacapo?)</td>
<td>PR, f.6r</td>
</tr>
<tr>
<td>e. Gloria Spiritus et alme (3vv troped Gloria; Johannes Ciconia)</td>
<td>Q15, f.A6r</td>
</tr>
<tr>
<td>f. Helas avril par ton douz revenir (3vv Virelai; Matteo de Perugia)</td>
<td>ModA, 45r</td>
</tr>
<tr>
<td>g. Adieu, adieu, mon joieulx souvenir (3vv Rondeau; Giles Binchois)</td>
<td>EscA, f.28r</td>
</tr>
</tbody>
</table>
D. Parallel Latin/English Text of

Lucidarium 2.5.-2.8; 5.6; and 8.1

Text and translation from Jan Herlinger’s 1985 Critical Edition and English Translation of the Lucidarium; permission to reprint kindly granted by the University of Chicago Press; Images of the examples in Lucidarium from M.

2.5.1 CAPITULUM QUINTUM | DEMONSTRATIO
PARTIUM TONI
2.5.2 Osteno superius de quiditate toni et natura ipsius, de ipsius partibus est videndum,
2.5.3 circa quod hoc ordine procedemus:
2.5.4 Primo enim ostendemus quot sint rationabiliter partes toni;
2.5.5 secundo ex eis quid sint et quot semitonia ostendemus.
2.5.6 PRIMUM DICTI CAPITULI
2.5.7 Quoad primum est sciendum quod tonus habet quinque partes et non plures neque pauciores... .
2.5.8 Probatum est superius tonum consistere in perfectione numeri novenarii, quod ostendimus ad sensum in corporibus sonoribus, puta in monacordo et aliis.
2.5.9 Nunc autem ita est, quod novenarius numerus nunquam potest dividi in partes equales;
2.5.10 est enim ibi unitas que resistit dividi, et per consequens neque subdividi:
2.5.11 nunquam enim potest dividi novem per duos, quattuor, sex, et octo, equaliter ipsum dicimus dividendo,
2.5.12 et tota ratio est propter eius imparitatem.
2.5.13 Relinquitur ergo quod partes ipsius esse debeant inequales,
2.5.14 ita quod unus sit prima pars; de uno ad tres, secunda; de tribus ad quinque, tercia; de quinque ad septem, quaarta; de septem ad novem, quinta; et talis quinta pars est quintus numerus impar totius novenarii.

First, the whole tone has five parts and neither more nor less.

As proven above [*] the whole tone consists in the perfection of the number nine, a fact that we substantiate with the aid of sounding bodies such as the monochord, and others.

* Lucidarium 2.4.8-29.

Indeed, nine [i.e., the whole tone] can never be divided into [two] equal segments, for there is a unit in it that resists being divided and, consequently, being subdivided. [*]

* When Marchetto says "the number nine can never be divided into equal segments" he means that the whole tone, represented by the number nine, can never be divided into two equal segments, as shown through comparison of this statement with its source, Macrobius's Somnium Scipioni 2.1.22: "Deinde nario numero consistet, novem autem nunquam aequaliter dividantur, tonus in duas dividi medietates recusat." ("Then the whole tone, but its nature, cannot be divided into two equal parts, since it consists in the number nine, and nine can never be divided into two equal parts: it is impossible to divide the whole tone into equal halves.

Remigius tells us what the unit is that resists being divided, Martianus Capella 44.11: "IMPAR NUMERUS MARIBUS EST ATTRIBUTUS quia maioria virtutis est par. Est enim indivisibilis, unitatem in medio sui continens, quae resistit divisioni, et ab arithmeticis eiusdem naturae vocatur, id est simplicis, atque ideo fortiori sexui deputatur. Par vero numerus infirmiori sexui, id est femineo, quia mutabilis et divisibilis est et ab arithmeticis alterius naturae dicitur." (THE ODD NUMBER IS ATTRIBUTED TO THE MASCULINE GENDER because it is of greater strength that the even number, for it contains a unit in its center that resists [bipartite] division. It is said by mathematicians to be of that same nature, that is, he simple, and thus it is attributed to the stronger sex. The even number, on the other hand, [is attributed] to the weaker, female, sex, because it is changeable and divisible; it is said by mathematicians to be of the other nature.

* The material in clauses 13-14 obviously accounts for the assertion in the Riemann Musik-Lexikon (12th ed.), Sachteil (Mainz: Schott, 1967), p. 225, s.v. "Diesis," that Marchetto’s diesis on one-ninth or two-ninths whole tone. The word ergo at the beginning of the passage, however, shows that the intervals for which Marchetto
clauses inequality are two semitones, not five dieses. Indeed, Marchetto explicitly defines his diesis as one-fifth tone in *Lucidarium* 2.6.2; he measures other intervals in multiples of the diesis (*Lucidarium* 2.5.25-27, 2.7.8; 5.6.16-19, 12.27-43)–a practice that makes no sense unless the diesis is of a single, constant value. The author of the Riemann article evidently supposed that Marchetto regards the whole tone as consisting of nine parts whereas what Marchetto actually claims is that it consists in the number nine (*Lucidarium* 2.4.29). In the present passage Marchetto deals with numerical considerations, not quantitative measurements.

2.5.15 *Sic patet quod tonus non potest habere nisi quinque partes, neque plures, neque pauciores.*

Thus it is manifest that the whole tone can have only five parts, neither more nor less, such that the five parts make up the entire tone, and this proves point one.

2.5.16 *Ita quod quinque partes faciunt totum tonum; et sic patet primum.*

Second, four parts do not comprise an entire tone, and for that reason all those intervals which include fewer than five parts are called “semitones”—from *semi*, which means “imperfect” or “part.”

2.5.18 *Quoad secundum, est scendiudem quod quatuar partes ipsius non comprehendunt totum tonum, et ideo vocatur semitonia omnia illa quae comprehendunt infra quinque, a semi, quod est imperfectum seu pars.*

If it is true that the semitones arise from the unequall parts of the whole tone—that is, that all those intervals which include fewer than five parts are called “semitones,”—then the whole tone is composed of five parts, each of which is a semitone.

2.5.19 *Unde semitonia quasi pars toni.*

Thus a semitone is like part of a tone. The segments of the whole tone (or the semitones) of this sort were devised in music so that we might come to more perfect or more beautiful consonances through colored dissonances, or because of their beauty, as will be show below [in the chapter] on consonances and dissonances. [*Chapter 5.6*]

2.5.20 *Et ideo merito consurgit ex partibus inequalibus ipsius toni, ut innautur ex tali inequalitate talis dissonantia causari ac etiam inveniri.*

Marchetto associates the concept of “color” with musica ficta, and even suggests that musica ficta, or falsa, ought more properly to be called musica colorata (*Pomeronium*. 4.5: “*semis et id est non plenus tonus [semi ... that is, not a full tone].” *English*: Hucbald, *Guida, and John on Music*: Three Medieval Treatises, trans. Warren Babb, ed. Claude V. Palisca (New Haven: Yale University Press, 1978), p. 61. Cf. also Johannes “Cotto,” *Musica 8.8*: “*Semitonium ... dictum est, quod sit non plenus tonus sed imperfectus, non ut quidam imperihi resolventum dimidius tonus [The semitone ... is names “semitone” because it is not a full tone but an imperfect one, not, as some ignorant people say, because it is exactly half of a whole tone].” *English*: Hucbald, *Guida, and John on Music*, p. 111.

2.5.21 *Huiusmodi autem partes in tono, seu huiusmodi semitonia, fuerunt in musica adinventa, ut per dissonantias coloratas, seu cuiusdam pulcritudinis ipsarum, ad perfectiores, seu pulcritores, in canu consonantias venianus, sicut infra de consonantias et dissonantias ostendetur.*

It is just that the semitones arise from the unequal parts of the whole tone—that is, that such and such a dissonance should be caused by or found in such and such an inequality. This is apparent especially in sounding bodies such as the monochord, where it is shown that the nature of these semitones is clearly recognized when the space of the whole tone is divided into five parts.

2.5.22 *Quarum quilibet quinta pars vocatur diesis, quasi prophetice demonstrare velim.*

Any one of these fifth parts is called a “diesis”—the last reduction or division, as it were.

2.5.23 *Hec est maior diviosio que possit in tono cantabili reperiri.*

It is the smallest division of the whole tone that can be sung.

2.5.24 *Due autem simul iuncte ex istis quinque componunt semitonia enarmonicum, quoquminus est, quod a Platon vocatur ista, continens duas dyeses;* 

Two of these five intervals joined together make up the “enharmonic” semitone, which is smaller. Plato called it the limma; it contains two dieses.

2.5.25 *Plato, *Timaeus* 45* e. *Timaeus a Calcidio translatus commentariae instructus, ed. J. H. Waszink, Plato Latinus, vol. 4 ([London: Warburg Institute; Leiden: Brill, 1962]): “*hemitonium quod dicitur, a ueteribus autem dihesis appellabatur, limma [Pythagorae] cognominavit.” ([“What is called the hemitone, [or] diesis by the old writers, Pythagoras called the limma.”]) Macrobius, *Somnium Scipionis* 2.1.23 (English: Stahl trans., p. 189) “*Hoc semitonium Pythagorici quidem veteres nominabant: se sequens usus sonum semitonio nominabant.*” The early Pythagoreans called this semitone diesis, but those who came later decided to use the word diesis for the interval smaller than the semitone. Plato called the semitone *Leima*.]

Macrobius’s statement is repeated in *Regulae Domini Odonis de rhythmimachia* (LS I: 285-95, 288a) and *Regino, Harmonica 10. Cf. also Johannes “Cotto,” *Musica 8.8.*

2.5.26 *Tres vero ex istis diesibus faciunt semitonia dyatonicum, quod minus est, quod quidem vocatur.* 

Three of these dieses make up the “diatonic” semitone, which is the larger; it is called the major apotome, that is...
apotome maius, id est pars maior toni in duas divisi;

2.5.27 quatuor autem dyeses cromaticum semitonium constituant;

2.5.27

2.5.28 de quibus omnibus per ordinem est videndum.

2.6.1 CAPITULUM SEXTUM | DE DYSES

2.6.2 Dyesis quinta pars est toni, puta cum aliquis tonus bipartitur propter aliquam dissonantiam colorandam supple terciam, sextam, sive decimam tendendo ad aliquam consonantiam;

2.6.3 quia prima pars toni sic divisi, si per ascensum fit, maior est, et vocatur croma;

2.6.4 pars vero que restat dyesis dicitur, ut hic:

Ex.3

2.6.5 Et nota quod natura dyesis maxime cognoscitur per comparationem ad semitonium cromaticum, propter quod multum de dyesis ostendetur naturam cromatici ostendendo.

2.7.1 CAPITULUM SEPTIMUM | DE SEMITONIIIS DYATONICO ET ENARMONICO SIMUL, EO QUOD UNUM PER ALIUD MELIUS COGNOSCATUR

2.7.2 Semitonium minus seu enarmonicum est quod continet duas dyeses, quo quidem utimur in plano cantu.

2.7.3 Dyatonicum vero tres continet dyeses, quo quidem non utimur in cantu plano, eo quod propter suam maioritatem excedat omnes consonantiarum proportiones, dissonantiam inde creans.

2.7.4 Utimur enim eo in cantibus mensuratis

2.7.5 Huiusmodi autem semitonia sic ad invicem recognoscuntur:

2.7.6 Semitonium dyatonicum est quando fit permutatio \( b \) rotundi in \( b \) quadrundam vel \( c \) converso propter ascensum vel descendum, ut hic:

Ex.4

2.7.7 Nam ab a. acuto ad primum \( b \) scilicet rotundum

2.7.7 For from high a to the first \( b \) (the round one) there is an I

the larger part of a whole tone divided in two.

Four dieses constitute the "chromatic" semitone. [●]

* Marchetto's definitions of the smallest intervals in terms of fifth tones are inconsistent with his definitions of the larger intervals. All measurements in fifth-tones must accordingly be regarded as approximations. See the introduction, pp. 15-17.

We shall examine all these in order.

CHAPTER 6 ON | THE DIESIS

The diesis is a fifth of a whole tone, occurring when, for instance, any whole tone is divided in two in order to color some dissonance such as a third, a sixth, or a tenth striving toward some consonance.

The first part of a tone so divided is larger, if the melody ascends, and is called a chroma;

the part that remains is called a diesis, as here:
est semitonium enarmonicum, quod ut predictur minus est;

2.7.8 a primo ♮. ad secundum ♭. scilicet quadratum est semitonium dyatonicum, quod dicitur maus.

2.7.9 In secunda figura a primo ♮. ad secundum ♭. dyatonium semitonium est;

2.7.10 a secundo vero ♭. ad ♯. acutum semitonium enarmonicum est.

2.7.11 Sicque patet quomodo tonus qui est ab ♯. acuto ad secundum ♭. in enarmonicum et dyatonicum semitoniam dividatur ...

2.7.12 ... et tonus qui est a primo ♮. ad ♯. c. predictum in dyatonicum et enarmonicum.

2.7.13 Ex enarmonico et dyosi consurgit dyatonicum, ex dyatonic et dyosi cromaticum, ex cromatico et dyesi tonus.

2.7.14 Continet sicque enarmonicum duas dyeses, dyatonicum tres, cromaticum quatuor; tonus vero ex quinque dyesis est formatus.

2.8.1. CAPITULUM OCTAVUM | DE SEMITONIO CROMATICO

2.8.2 Cromaticum semitonium est illud quod de quinque dyesisbus quas habet tonus quatuor comprehendit, et, ut predictur, semper cum dyesi tonum perficit.

2.8.3 Fit enim cum aliquid tonus bipartitur proper aliquum dissonantiam colorandam puta terciam, sextam, sive decimam tendendo ad aliquam consonantiam,

2.8.4 nam prima pars toni sic divisibilis, si per ascensum fiat, erit maior, quod dicitur croma; pars que restat est, ut hic:

Ex. 5

2.8.5 Dicitur enim cromaticum a crome; est namque croma in greco color.

2.8.6 Inde cromaticum color pulcritudinis appellatur, qua proper decoorem pulcritudinemque [•] dissonantiarum dividitur tonus ultra divisionem dyatonici et enarmonic generis, ut a consonantia que sequitur dissonantias per minorem distantiam per motum utriusque distetur ...

2.8.7 ... ita videlicet quod in tali distantia supra vel infra in such a way that a whole tone sounds at a certain...

2.8.6 * Guido Frater, a contemporary of Marchetto, likewise mentions the "decorum et pulcritudinem medium consonantiarum, videlicet decime, sexte, et tercie [elegance and beauty of the medial consonances, that is, the tenth, sixth, and third]." *Ars musice mensurate* 6.1.

2.8.7 ... thus the "chromatic" is called the "color of beauty," because it is on account of the elegance and beauty of the dissonances that the whole tone is divided [into two parts] beyond the size of the division into the diatonic and enharmonic genera—so that the dissonances may lie closer to the consonance that follow them, as both voices move ...

The word "chromatic" derives from *chroma; chroma* is "color" in Greek. [•]

* Cf. Remigius, Martianus Capella 494.23.
unius toni prolatio semper extet, ut hic:

distance above or below [the chromatic voice]. as here: [ex. 6]

Ex.6

2.8.8 Nisi forte fiat talis toni bipartitio per descensum, que est minus propria in dissonantias tendentius ad consonantias, ut hic:

Such a division of the whole tone can also be made in descent when dissonances strive toward consonances, but less appropriately, as here: [ex. 7]

Ex.7

2.8.9 Hec enim bipartitio toni debet fieri cum colore ficticio, ut qui cam profert fingat in primo descensu, qui est dyesis, ac si vellet post talem descensum sursum redire;

2.8.10 post hcc chromaticum descendat, et sic consonantia, licet minus naturaliter et propric, subsequitur.

This bipartite division of the tone should be made with feigned color: let whoever uses it feign in the first descending interval, which is a diesis, as if he wished to return upward after this descent, then let him descend a chromatic semitone. Thus a consonance follows, though less naturally and less appropriately.

2.8.11 Quare autem debet distare dissonantia ante consonantiam per minorem distantiam inferius de consonantis et dissonantis ostendetur.

Why a dissonance should lie at the smallest distance from the following consonance will be show below [in the chapter] on consonances and dissonances. [*]

5.6.1 CAPITULUM SEXTUM | QUESTIO DE DISSONANTIIS

5.6.2 Quoniam dictum est superius quod quedam dissonantie non se compatiuntur nec sunt compassibles a auditui, eo quod magis sunt remote a consonantis quam oporteat, nam sunt distantes ab ipsis per maiorem distantiam,

and some are compatible in themselves and to the ear because they lie closer to consonances—at the smallest distance from them— [*]

5.6.3 et quedam se compatiuntur et auditui sunt compressibles, eo quod magis propinque consonantis et per minorem distantiam sunt distantes,

the question arises why a dissonance compatible to the ear must lie at the smallest distance from the consonance.

5.6.4 ideo questio consurgit, quare scilicet oporteat dissonantiam compassibilem auditui per minorem distantiam a consonantia distare.

5.6.5 Et respondemus quod hoc ideo est, eo quod dissonantia sit quoddam imperfectum, requirens perfectum, quo perfici possit.

5.6.6 Consonantia autem est perfectio ipsius

5.6.7 Quanto enim dissonantia minus distat a consonantia, tanto minus distat a sua perfectione et magis assimilatur eidem, et ideo magis amicabilis est auditui, tamquam plus habens de natura consonantiae.

We answer that a dissonance is something imperfect; it requires something perfect by means of which it can be perfected.

The consonance is its perfection.

The less distant the dissonance lies from the consonance the less distant it is from its perfection and the more it is assimilated to it, and thus the more agreeable it is to the ear, as if it partook more of the nature of the consonance.
5.6.8 Sed tunc dicet aliquis, quare oportet me distare a consonantia per tonum et dyessim, quam dicis esse minorem distantiam ante consonantiam ad quam tenditur; numquid esse in perfectioni dissonantia et in magis amicabili auditui, quia in magis propinqua consonantia, nullum motum faciendo in altero duorum cantuum, aut supra aut infera, ut hic:

Ex.8

5.6.9 Et respondemus quod non, quia magis est delectabilis nature proportio partium ad suum totum quam proportio unius totius ad alium totum,

5.6.10 nam proportionando duo ad invicem consurgit maior delectatio et conformitas quam proportionando duo tota, et ideo oportet quod ibi fiat motus in utrisque partibus, ut earum proportio et ad se invicem et ad sua tota etiam cognoscatur, quod non esset si ex parte unius non motus alius causaretur, [*]

5.6.10 ...

5.6.9 ... nam utraque duarum vocum in dissonantia est, et propter hoc utraque appetit perfici, nec potest, si non movetur de loco sive de sono in quo est.

5.6.12 Oportet igitur quod moveantur ambe sursum et deorsum ad aliquam consonantiam intendentes.

5.6.12 ...

5.6.13 Debet autem dissonantia distare ante consonantiam per minorem distantiam et per motum utrisque rationibus superius allegatis,

But then someone will ask, "why must I lie distant from the consonance by a whole tone [in one voice] and a diesis [in the other], which you say is the smallest distance from the consonance toward which it tends? Would I not be in a more nearly perfect dissonance, one more agreeable to the ear because in closest proximity to the consonance, with one of the two melodies, upper or lower, remaining stationary, as here?" [ex, 8]

We answer to the contrary, because the proportion of the parts to the whole is more pleasing that the proportion of one whole to another. [*]

* Cf. Augustine, De genesi contra Manichaeos 1.21.32 (Patrologiae Cursus Completus, Series Latina, ed. J.-P. Migne, 221 vols. [Paris: Garnier, 1878-90] vol. 34): "Si enim singula opera Dei cum considerantur a prudentibus, inventiuntur habere laudabiles mensuras et numeros et ordines in suo quaque genere constituta; quanto magis omnia simul, id est ipsa universitas, quae ipsis singulis in unum collecta impletur? Omnis enim pulchritudo quo partibus consistat, multo est laudabilior in tota quam in parte: sicut in corpore humano, si laudamus ocularum solos, si nasum, si solas genas, aut oolum caput, aut solas manus, aut solas pedes, et caetera si pulchra singula et sola laudamus: quantum magis totum corpus, cui omnia membra, quae singula pulchra sunt, conferant pulchritudinem suam." Translated by D.W. Robertson, Jr., A Preface to Chaucer: Studies in Medieval Perspectives (Princeton: Princeton University Press, 1962, p 120: "For if the single works of God as they are considered by prudent men are found to have praiseworthy measures on numbers and orders constituted in their proper kind, how much more is true of all together, that is, of the universal whole which is filled with these single individuals? Indeed, all beauty evident in parts is much more praiseworthy in the whole than in the part. Thus in the human body, if we commend the eyes alone, the nose alone, the cheeks alone, or only the head, the hands, or the feet, and the other parts alone, how much more do we commend the whole body to which all the members which are beautiful alone contribute their beauty?"

A greater joy and conformity arise from considering the proportion of two entities with respect to each other than from considering the proportion of two wholes. Therefore both parts must move so that their proportion to each other and to the whole be recognized. This would not be the case if the motion of one were not caused by the other, ...

* In a dissonance each voice is dissonant because of the other: Marchetto states that both voices must move. Therefore it makes more sense to say that one voice causes the motion of the other (motus alius) than to say that one voice causes some motion motus alius.

... for each of the notes is in a state of dissonance, and on this account each seeks to be perfected, but it cannot do so unless it is moved from the location or the pitch, on which it lies. Both, then, must move, one up, the other down, tending toward some consonance. [*]

* Guido added in a gloss in the margin of L: "Ad consonantiam perpendiendum duae voces debent simul moveri motu contrario in contrapuncto. [To obtain a consonance in counterpoint the two voices must be moved simultaneously in contrary motion]."

The dissonance must lie at the smallest distance from the consonance, and both notes must move, for the reasons given, as here: [Ex. 9]
The question arises why it is not as proper for the dissonance of the sixth to resolve to the consonance of the diapente as to the consonance of the diapason ... since that dissonance would seem to lie at the smallest distance from either of those consonances, as here: [Ex. 10]

For we see that if the first figure the upper melody begins a diapason from the tenor and descends one diesis while the tenor ascends a whole tone, which contains five dieses. This makes six dieses, the smallest distance from the consonance of the diapason, toward which the melodies are clearly tending.

In the second figure, similarly, the two melodies lie at the smallest distance that is, six dieses, from the diapente: the upper melody, which is a diapason above the tenor, descends one diesis, while the tenor ascends a whole tone; thus they lie in the dissonance of the sixth.

After this the upper melody descends a chromatic semitone, which contains four dieses, and the tenor ascends an enharmonic semitone, which has two dieses.

This makes six: and thus the smallest distance occurs before the diapente, through motion in both voices. We reply that there are two reasons why the sixth, which is a dissonance, does not tend as perfectly toward the diapente as toward the diapason.

First, although that dissonance seems to lie at the smallest distance from either consonance, in neither melody in the second figure [i.e., from the sixth to the diapente] does the smallest interval occur, for the smallest part of the whole tone does not occur there;

... consequently, the smallest motion is lacking when they move from the dissonance to the consonance. This will be evident to whoever is attentive.

To have the smallest distance before the consonance, the
consonantiam, quod in aliquo duorum cantuum minor pars toni, que est dyesis, superius aut inferius proferatur.

5.6.24 Secunda ratio est quod licet dissonantia ab ipsis duabus consonantibus, scilicet dyapente et dyapason, equaliter si sit vicina, ad illam debet libentius tendere et ad quam iocondius inclinatur.

5.6.25 Dyapason autem est perfectior consonantia dyapente, ut infra patebit, et ob hoc minus iocondius inclinatur ad dyapente, que minus perfecta est.

5.6.26 Patet ergo quod dissonantia que dicitur sexta minus proprie tendit ad dyapente quam ad dyapason.

5.6.27 Licet sepius in cantibus talis color, qui dicitur ficticus, apponatur, naturaliter aut iocondie profertur quelibet toni bipartitio per descensum, ut in presentibus figuris probabiliter potest scriri:

Ex.11

5.6.28 FINIT TRACTATUS QUINTUS
8.Pr.1. INCIPIT TRACTATUS OCTAVUS | DE NECESSARIIS AD COGNOSCENDUM NATURAM TONORUM ET SEMITONIORUM
8.pr.2 Quoniam omnis tonus et semitonium in voce consistit et etiam notis ex quibus formatur,
8.pr.3igitur ad cognitionem perfectam ipsorum videndum est de permutatioibus, mutationibus, et coniunctionibus vocum,
8.pr.4 ex quibus diversificatis tonorum diversitas generatur,
8.pr.5 ad que videnda hoc ordine procedemus:
8.pr.6 primo enim de permutazione dicemus, per quam propter consonantiam in dyatonicum et enarmonicum aut in cromaticum et diesim est divisibilis quisque tonus;
8.pr.7 secundo de ipsa mutatione dicemus, que fit in quolibet loco manus ubi due vel tres voces sub una littera includuntur;
8.pr.8 tercio de ipsa coniunctionibus tractabimus, per quas in musica est dispositio sive ordination sonorum sive vocum ad invicem in sillabis et smallest part of the whole tone, which is the diesis, must be sung in one of the two melodies, above or below. [K]

Second, although the dissonance lies equally close to either of the two consonances diapente and diapason, it ought to tend more willingly toward the one that has the greater degree of perfection, and toward which it inclines more agreeably.

The diapason has a greater degree of perfection than the diapente, as will become evident later; therefore the sixth inclines less agreeably toward the diapente, which has a lesser degree of perfection.

It is evident, therefore, that the dissonance called the sixth tends more properly toward the diapason than toward the diapente. [K]

Although this sort of color, called "feigned," occurs very often in melodies, any division of the whole tone in descent sounds by nature disagreeable, [K] as is well demonstrated in these figures: [Ex. 11]

* Lucidarium 6.4.
* Gaffurius added a gloss in the margin of :: "Sexta ad octavam libentius tendit quam ad quintam. [The sixth tends toward the octave rather than toward the fifth]."

Cf. a madrigal from the Rossi Codex, L'antico dio Bibèr, m.5.
dictionibus;
8.pr.9 et ex his omnibus tonorum et semitoniorum
musice naturalitas apparebit.
8.1.1. CAPITULUM PRIMUM | DE
PERMUTATIONE QUID SIT ET UBI FIAT
8.1.2 Permutatio est variatio nominis vocis seu note
in eodem spacio seu linea in diverso sono.
8.1.3 Fit enim permutatio ubi tonus dividitur propter
consonantiam in dyatonice et enarmonicum aut
in cromaticum et diesim vel e converso, ut hic:

Ex.12

8.1.4 Signa autem quibus nobis innuitur
permutationen facere sunt tria, scilicet | b |
quadrum, | b | rotundum, et alius signum quod a
vulgo falsa musica nominatur,
8.1.5 de quibus videre oportet. 
8.1.6 Prima namque duo signa, scilicet | b,| et | b, |
sunt, vel esse possunt, in quolibet cantu, plano
ac etiam mensurato;
8.1.7 ...tercium vero signum solum in cantu ponitur
mensurato, vel in plano qui aut colorante cantatur
aut in mensuratum transit, puta in tenoribus
motetorum seu aliorum cantuum mensuratorum.
8.1.8 De primis duobus signis ait Riccardus
Normandus:

Ex.13

8.1.9 Ubicunque ponitur | b | quadrum dicimus voce
mi;
8.1.10 ubicunque vero | b | rotundum dicimus voce fa.
8.1.11 Hec enim duo | b, | | b, | sic per lineas et spacia
figurantur:

Ex.13

8.1.12 nam | b | rotundum, si debet notis in spacio sitis
On Permutation; What it be, and where it be made.
Permutation is a change in the name of a syllable or note
lying in the same space or on the same line but with a
different pitch. [*]

* Hans Peter Gysin points out that Marchetto was the first to introduce the term
permutatio (Studien zum Vokabular der Musiktheorie im Mittelalter [Hilversum:
Knuf, n.d.] p.129.

Permutation is used where the whole tone is divided, for
the sake of consonance, into a diatonic semitone and an
enharmonic one or into a chromatic semitone and a diesis
(or vice versa) as here: [Ex. 12]

The signs that tell us to make a permutation are three, the
square, | b |, the round, | b |, and another sign commonly
called falsa musica. [*]

* Marchetto uses the same expression in Pomerium 13.1 (CSM 6, p.68).

We must examine these.
The first two signs, the | b | and the | b |, occur—or can
occur—in any piece, whether plain or measured; [*]

* In Pomerium 14.3 Marchetto reiterates that these two signs can appear in any
piece whether plain or measured, and warns that they are not appropriate for
altering dissonances that proceed directly to consonances.

but the third sign is employed only in a piece that is
measured or in plainchant that either is sung with color [*]
or crosses over into measured (for instance, in the tenors
of motets or other polyphonic compositions).

* i.e. with chromatic alteration.

Of the first two signs Riccardus Normandus says, [*]

* The identity of Riccardus Normandus is unknown. A similar statement appears in a
thirteenth-century work, Anonymous II, Tractatus de discantu (ed. Albert Seay,
32), and echoes through the history of music theory.

“Wherever a square, | b | is set down we sing mi;

... wherever a round, | b | is set down, we sing fa.”
The | b | and the | b | are written on the lines or in the
spaces thus: [Ex. 13]

If the round, | b | should apply to notes placed in a space, let
servire, tunc album quod est in eius rotunditate per medium spaci fiat;

8.1.13 si autem notis que sunt in linea servire debet, tunc codem modo per lineas protrahatur, ut immediate superius demonstratur.

8.1.14 similiter \[\text{Ex. 14}\] quadrum eodem modo per lineas et spacia protratur,

8.1.15 ita tamen quod linea que est in parte sinistra ipsius \(\text{Ex. 14}\) in sursum tendat;

8.1.16 que autem in parte dextra, que pro decore eidem additur, inferius protrahatur hoc modo:

8.1.17 Sunt enim nonnulli qui ipsum \(\text{Ex. 14}\) et tercium signum, quod, ut predictur, a vulgo falsa musica nominatur, eodem modo figurant, propriam proprietatem et diversam eorum penitus ignorantes;

8.1.18 nam propria proprietas \(\text{Ex. 14}\) est semper dividere tonum per enarmonicum et dyatonicum semitoniam, vel e converso, ut superius est ostensum;

8.1.19 alterius vero signi propria proprietas est tonum dividere per cromaticum et dyesim, et semitonium enarmonicum per medietatem,

8.1.20 pro quibusdam, ut supra dictum est, consonantias post dissonantias assumendis.

the white inside its loop be placed in the middle of the space;

if it should apply to notes that are on a line, let it be drawn on the line in the same manner, as demonstrated just above.

Let the square \(\text{Ex. 14}\) be drawn on the lines or in the spaces in the same fashion,

so that the line that is on the left side of this \(\text{Ex. 14}\) rise above it

and that on the right (added for the sake of symmetry) be protracted below it in this manner. [Ex. 14]

There are some who write the square \(\text{Ex. 14}\) and the third sign (commonly called falsa musica, as has been said) in the same manner, totally ignoring their true and different properties. [*]

* In Pomerium 17.15-17 Marchetto explains how the third sign is drawn. See the introduction, p. 27; (CSM 6 pp.73-74).

The true property of the square \(\text{Ex. 14}\) is to divide the whole tone into an enharmonic semitone and a diatonic one or vice versa, as has been demonstrated above; [*]

* Lucidarium 2.7.

The true property of the other sign is to divide the tone into a chromatic semitone and a diesis, or to divide the enharmonic semitone in half, [*]

* Pomerium 14.4.

in order to reach consonances after dissonances, as said above. [*]

* Lucidarium 2.6; 2.8.
Chapter One

The Phenomenon of Microtones in Medieval Music

I.1 — The Persistence of the Enharmonic diesis in Plainchant

Marchetto did not invent the microtone that he calls diesis. It was known to the ancient Greeks as the smallest interval of the enharmonic genus, and its width was roughly half that of the Pythagorean minor semitone.

The ancients distinguished three “types” of scale, or “genera” … . The diatonic was one [“genus”]. The other two were [the] enharmonic and chromatic. In the enharmonic, the two inner notes of the tetrachord were crowded down close to the bottom, at intervals of only about a quarter-tone, leaving a wide gap of two tones above them.¹ (emphasis added)

The question of whether microtonal inflections had somehow persisted from antiquity into the middle ages was first raised following the discovery in 1846 of the plainchant manuscript known as the Dijon Mass-Tonary, siglum DIJ 1.² Two features make this manuscript important. The first is its dual notation: French neumes and alphabetic pitch notation of the a-p variety.³ The second is the presence of five non-alphabetic signs that occur only at the semitonal steps, with each sign used only at its specific step and at no other (see Fig.I.1 below):

³ For information on the origins of alphabetic pitch notation, see: Alma Colk Santosuosso, Letter Notations in the Middle Ages (Ottawa, Canada: Institute of Medieval Music, 1989).
The debate over whether these signs signaled a microtonal inflection lasted from the 1850s until about 1990.4

During the following decade, scholars Ike de Loos, Christian Meyer, and Manuel Pedro Ferreira collectively demonstrated beyond reasonable doubt that they do.5

In the early 1990s, Loos demonstrated concordances between the unusual neumes of the thirteenth-century Utrecht missal, siglum ULT—which she had long suspected of signaling microtonal inflections—and the five non-alphabetic signs of Dij 1. Loos found a sufficient number of concordances to conclude “that the signs in Dij 1 and ULT record the same musical phenomenon.”6

In 1995, Manuel Pedro Ferreira, comparing the special neumes in an early thirteenth-century missal from Stavelot (STA), a town near Liège, Belgium, to the special signs in Dij 1

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4 The idea was first broached by Alexandre-Joseph-Hydulphe Vincent, “Emploi des quarts de ton dans le chant gregorien, constate dans l’Antiphonaire de Montpellier,” Revue Archeologique XI (1854): 262-72. According to Ferreira, “Vincent’s fundamental assumption was subsequently accepted by an impressive number of authors; one finds amongst them, in chronological order, Raillard, Riemann, Wagner, Gastoué, Gmelch, Emmanuel, Wolf, Johner, Gerold, Sidler, Reese, Jammers, Corbin, Hugo, Apel, Sims, Planer, Hansen, Caldwell, Stuart, Hiley, Brunner, Hughes, Péres, Loos, Ferreira, and Meyer. A few scholars of clerical background, namely Baralli, Bescond, and Froger, did not accept the microtonal hypothesis. Pothier, followed by Yasser and Ulveling, did not deny the existence of a special intervallic phenomenon, but excluded it from the musical domain. Other scholars chose not to take a stand or just ignored the problem.” “Music at Cluny,” 168.


6 Ibid., 131.
and those in the eleventh-century Cluny gradual, **CLU 1**, found an overwhelming number of concordances.\(^7\)

The Cluny gradual was the subject of Ferreira’s dissertation, completed in 1997, and the bulk of it is his demonstration that “intervals distinctly smaller than the semitone were used … as distinct entities which could be alternated with diatonic intervals.”\(^8\)

Ferreira’s investigation found that between the ninth and the twelfth centuries, twenty-four sources mention or discuss the Greek enharmonic *genus*. Eight of these sources are by known authors; the remaining sixteen are either anonymous or known only by pseudonym. A full three-quarters of them—eighteen of twenty-four—refer to *diesis* as half of a semitone.\(^9\)

Ferreira goes on to note that in the conversion from manuscripts in *campo aperto* neumes to those on staff lines that took place over the late twelfth to the early thirteenth centuries—and

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\(^7\) “To the above-mentioned MSS with microtonal information [Dij 1; Clu 1; Ult] I can add a [fourth] source: the Missal from Stavelot in the British Library, Add. 18031/2. I compared eighty-six occurrences of the special clivis in Clu 1 with the Dijon and Stavelot manuscripts and found that Cluny and Dijon agree in 77% of the cases, that Cluny and Stavelot agree only 54% of the time, and that Cluny agrees with one or the other of the manuscripts in 86% of the occurrences considered. The higher degree of agreement between Cluny and Dijon has probably to do with geographical proximity and with the fact that Saint-Benigne de Dijon was reformed by Cluny in the late tenth-century. Stavelot, on the other hand, represents indirectly the monastic reform of Gorze, in the northeast, which started … later and independently of Cluny.” Manuel Pedro Ferreira, “The Cluny Gradual: Its Notation and Melodic Character,” *Cantus Planus* 1: 214-215.

\(^8\) Ferreira, “Music at Cluny,” 162.

\(^9\) The following is a condensed text from ibid., 181-183. In the original, each source is footnoted with full bibliographic details. For this reason, I do not enclose the text in quotation marks. While details not pertaining to the summary have been excluded, my only addition to Ferreira’s original text are the numerical sums.

Seven medieval authors active between the ninth and the twelfth centuries refer to the Greek enharmonic *genus*: Remigius of Auxerre, (fl. c. 860-908); Gerbert of Aurillac (late tenth century); Odorannus of Sens (985-1046); Berno of Reichenau (d.1048); Aribio (fl. c. 1068-78); Heinricus of Augsburg (d. 1083); and Frutolf of Michelsberg (late eleventh century).

Another fifteen anonymous writers do so as well: the Pseudo-Hucbald; the Pseudo-Remigius; the Pseudo-Adelbodus; Gerbert Anonymous II; and the unnamed authors of the following texts: *Boetius vir erudissimus; De mensura monochordi; Dulce ingenium; In primis divide; Monocordum divisurus; Quaestiones; Quinque gradus symphoniariam; Si volueris; Studiosis; Totam tabulam divide; and the Tractatus de intervallis.*

Of these twenty-two sources, sixteen speak of the *diesis* as half a semitone or a quarter-tone: Henricus; Frutolf; the author of the *Quaestiones* treatise; Remigius; Odorannus; Berno; Frutolf; the Pseudo-Adelbodus; Gerbert Anonymous II; the *Boetius vir*; the *Dulce ingenium*; the *Monocordum divisurus*; the *Quaestiones*; the *Si volueris*; the *Studiosis*; and the *Tractatus de intervallis*.

Another two sources, not mentioned in the above—Regino of Prüm (c. 900); and the interpolator to Chapter X of Guido’s *Micrologus*—bring the total number of references to twenty-four.
which was essentially the replacement by a digital system of notation of what had long been analog—the ability to unambiguously signal microtones began to be lost.

By comparative study of the notational problems occurring at the semitonal steps of these manuscripts, however, he found that it was still possible to detect these inflections. Over and over, he found that chants whose readings were stable across a wide set of readings nevertheless showed signs of indecision at the semitonal steps.

While it is not possible to do justice to his methodology here, the following example—one of 249 in his thesis—will suffice to demonstrate:\(^\text{10}\):

![Fig.1.2: Ferreira’s Evidence for the Quarter-tone E*](image)

The chant in question is the Gradual *Laetatus sum*; the notated excerpt is from the *Graduale triplex*, showing the neumes from the Laon 239 and Chartres 47 antiphoners above and below the quadratic notation of a single word: *mihi*. The numbered columns reflect the last seven

\(^{10}\) Ibid., 385. Ferreira intabulates all his data in Volume II, starting page 289, but see especially Appendix 2, “Comparative Tabulation of Microtonal Indications,” pp.468-498, in which every concordance between the three manuscripts in question is listed.
notes of the melisma. At issue is the pitch of the third and fourth notes (whose column numbers are indicated in red). The majority reading is a unison F (see row 2). But at least one source has a unison E (row 5), and another a semitone EF (row 4). At the root of the problem, according to Ferreira, is the *oriscus*, a neume usually interpreted as in unison with the note before, but which also has microtonal implications. This would account for fluctuation between F and E when the melody was transcribed onto staff lines. The depth of the confusion, moreover, is underscored by the unison E reading in KLO 1 (a source that tends to raise *mi* notes to *fa*), and the unison F reading in ALB, YRX and BEN 5, (sources that tend to preserve the *mi* reading). Ferreira indicates the primitive melody may have been EGE E+ DED.

The third scholar, Christian Meyer, in his study of the monochord from the ninth to the fifteenth century, found eleven divisions in which instructions for realizing the enharmonic and chromatic genera were included, and on this basis, concludes that they must have been a practical reason for them:

> The number of witnesses and the indications of construction given by these writings do not … permit us to see in them merely the preoccupations of theorists anxious to conform their monochord to the teaching of Boethius.

### I.2 — Indications of Microtones in Medieval Polyphony

#### I.2.1 — *Flos de spina* and its Curious Compound Sign

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11. The three columns to the right show the *sigla* of the twenty-two manuscripts that made up his sample.
12. According to Dom Cardine, the oriscus indicates a “melodic tension with the note following”; see *Gregorian Semiology*, trans. Robert M. Fowels (Solesmes, 1982), 164.
Did microtonal inflections migrate from plainchant into polyphony? Two of the sixteen polyphonic works examined in this thesis suggest that the answer to this question answer may be yes. What’s more, the earlier of these, the two-voice conductus *Flos de spina* may indicate this shift took place in the mid-thirteenth century.

*Flos de spina* survives in five sources. In the oldest, the Florence *Magnus liber* (siglum F), copied near Paris during the 1240s, there is a very unusual accidental—what appears to be combination of both the square- and the round-b, simultaneously indicating emi and ffa at ver-bum. It is enlarged in Fig. I.3a above, and shown in context in Fig. I.4a below in both natural and ultraviolet light. This very important manuscript was given a thorough proofreading after it was copied, and there are multiple corrections in this particular conductus, but the round-b of this sign, while faint, has not been erased.

In the Las Huelgas (Hu) recension of *Flos de spina*, the text (ver-bum) is inflected, not by the compound sign in F, but by a three-stroke square-b, which raises the question of whether the two signs signal the same inflection. If this sign [³] is falsa musica, as I believe it is, and

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15 These are listed in Chapter VI.5.1.
given Marchetto’s assurances that falsa musica signals diesis, then it is possible that the [sqb+rdb] in the F recension was also meant to signal a microtone: a pitch higher than emi, but lower than ffa.

This moment in F, furthermore, is similar to the situation in Fig.I.5, in which the scribe appears to have been improvising a solution to the problem of how to indicate a non-diatonic pitch on staff lines. The three-stroke square-b in Hu may be confirmation of this.

I.2.2 — Qui secuuntur / Detractor est / Verbum iniquum

The second work to have a three-stroke square-b inflecting a pitch that was earlier signed with [sqb+rdb] is the motet Qui secuuntur / Detractor est / Verbum iniquum as it appears in the fr.571 recension (copied 1326-27). The first and only other recension of this motet is in the Interpolated Roman de Fauvel, fr.146., copied c.1320; the texts of this motet suggest it was composed c.1307-c.1314.

What is particularly interesting about the fr.571 recension is that it transmits both the earlier sign and a three-stroke square-b that evidently replaces it. The first of these two signs are shown enlarged in Fig.I.5a-b below; as they appear in context in the manuscript (c-d); and in transcription (e).
It would seem the scribe of the fr.571 recension did not recognize that [sqb+rdb] n/15 was an accidental sign when he copied it into his recension near the end of line 11 (d); he then signed the three-stroke square-b o/16 at the start of line 12 (c). What is clear, however, is that both signs inflect gras-sa-ri, and that whatever this sign signals[ ] this sign [sqb+rdb] very likely also signals.

### I.3 — The Phenomenon of “Anomalous Use”

The texts of *Qui secuuntur* / *Detractor est* / *Verbum iniquum* tell the story of a villainous character who is identified only as nequissima vulpis, or “the most wicked fox.” It is narrated by those who suffer his depredations, and who pray for his downfall.

It is possible that this “fox” was an analogue for a political figure by the name of Enguerran de Marigny. Marigny was the Grand Chamberlain of Philip IV of France, and though he was a lesser noble, he had risen to a position of power which the circumstances of his birth should have prevented him from attaining. Marigny was greatly valued by Philip—in particular
for his ability to raise much-needed capital for the cash-strapped king—but the means by which he did so earned him widespread enmity, as did what was seen as his usurpation of power by Philip’s younger brother, Charles de Valois. When Philip died in November of 1314, it was Charles who led the push to have Marigny arrested and condemned to death.

Fig. I.6 illustrates the five inflections in the fr. 571 recension of this motet that refer directly to the fox, in which he is called a smooth flatterer (d/7; adulator blandus); a con man (e/8; car il dechoit) whose conduct is “damnable” (i/10; huiusmodi quid damnabilius); a snake in the grass (o/16; grassari); and an unrepentant sinner (r/19: peccatores lue). All are signed with the three-stroke square-b [≡].

Illustrated below in Fig. I.7 (see p. 11) below is a curious circumstance: between the inflections i/10 and o/16, is a third inflection, l/13 (not shown in Fig. I.6 above). What makes this third inflection interesting is that while the same pitch, bb., is inflected in all of them, the first and third signal their inflections with this sign [≡], while the inflection in the middle does so with this sign [†].

This is the phenomenon I call “anomalous use”: the signing of the same pitch at two different locations with two different signs. Of the sixteen works of polyphony studied in this thesis, six exhibit this phenomenon, and the question they pose is whether the different signs signal the same thing (i.e., the minor semitone), or whether they signal intervals of different size.
(i.e., semitone and microtone). Marchetto’s statement that falsa musica signals diesis is the most authoritative testimony we have that the latter situation is the case, but my research into this question indicates that the signing of a three-stroke square-b is rarely if ever by itself sufficient to assert microtonal intent. Some form of corroborating evidence is needed.

Next to the sign, what may be the most suggestive evidence of microtonal intent is the connection of sign and the text inflected. We know that musica colorata [♯] inflects diesis, and I have described above my reasons for proposing that the three-stroke square-b [♯] is the sign Marchetto calls falsa musica in Pomerium 4.17. What makes the fr.571 recension of Qui / Detractor / Verbum so interesting is that in addition to its anomalous use of signs, we also know a great deal about the circumstances of this manuscript and the people involved in its commission. It is possible, therefore, to project the motet, its texts and their inflections, against the backdrop of this information, and from this matrix, to draw some tentative conclusions.

The manuscript fr.571 was compiled to mark the signing of the contract to wed the future Edward III of England to Philippa of Hainaut, granddaughter of Charles de Valois in August of 1326. It is a very large manuscript, and comprised almost entirely of didactic texts designed to educate a young prince about the duties of kingship. At the end of the manuscript are two motets, both known only from their earlier recensions in fr.146 (i.e., the Interpolated Roman de Fauvel). These are followed by a set of line drawings regarding the history of an evil horse named Fauvain. Neither the motets nor the drawings are listed in the manuscript’s table of contents.

The marriage of Edward to Philippa was an act of medieval diplomacy that was common in the middle ages, the goal of which was to strengthen alliances between neighbors and reduce the chances of open conflict. The marriage of Edward’s parents, Edward II of England to Isabella of France, younger sister of Philip IV (i.e., Philippe le bel) in 1308 had been arranged for
precisely this reason. What was different in 1326 was that in the twelve years since Philip IV had died, Edward II had pursued a set of increasingly hostile policies towards his French relations, such that by the time of the marriage, Edward II was despised by the French, and his son was feared to be as bad or perhaps even worse.

It is this against this background—the hope that the marriage would bring peace and the likelihood that it would not—that the texts of *Qui / Detractor / Verbum* should be read.

While the antagonist in this motet is clearly the fox, the protagonist is harder to identify. In Fig.I.7b above, there is a reference in verse 11 of the triplum addressed to the “Vidame of Picquigny.” This may be the “Renault de Picquigny [who] was one of the officials charged with arresting the Templars [in October of 1307] and inquiring into the accusations against them.” If so, then Philip IV may have been the fox, since it was he who ordered their arrest. Renaut, the official whom the Templars may have hoped would exonerate them, might have been the
protagonist, but it is not possible to say. Sources contemporaneous with *fr.146*, a manuscript compiled c.1320, report that a “Messire Ferri de Piquegny led the lords of Picardy and Normandy in the purge of Marigny after the death of Philippe le Bel.”

By 1326—the year *fr.571* was compiled—it may have been Marigny who would have been understood as the fox, and Ferri de Piquegny, as the protagonist. If so, then the juxtaposition between good and evil—fox versus lawman—becomes apparent.

What is remarkable about this recension is that the accidental signs appear to be used to represent the two opposing sides: the three-stroke square-b [郻] to represent the fox and his cronies (they are identified in the plural, i.e., *peccatores*, at the end of the motet); and the normal two-stroke square-b to represent the agent of justice.

That this may have been intended, moreover, as a warning to Edward of Chester to honor his commitments to his in-laws and to stay out of French politics, seems clear at the end of the motet, where both lines come together to urge God to purge the sinners in an ascending progression bound for .cc., but which stalls on .bb. (inflected by [郻]) and then falls away, eventually cadencing to .g. (see Fig.I.8 below). Noteworthy also is that the sonority at the beginning of m.41 has .b. inflected with [郻], apparently a deliberate discord to accompany the text “hos duc deus ad portas inferi [lead them God, to the gates of Hell].” Fig.I.8b, one of the

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16 *Qui secuntur castra* contains an allusion to the seigneurs of Picquigny in the lines “De pinquegni O vicedomine / per tele gents prince ont determine” (triplum, vv. 11-12). Since Renault de Picquigny was one of the officials charged with arresting the Templars and inquiring into the accusations against them, Arthur Långfors concluded that the motet concerns the Templars—and more precisely, that it takes a position supportive of the Knights in their predicament. However, the [21a] abrupt shifts in syntax between the alternating Latin and French lines result in a fabric that makes this interpretation difficult to sustain. So also does the fact that the roman verses in the vicinity of *Qui secuntur castra*, which speak in moving terms of the reign of Fauvel over men, do not provide the opportunity for the kind of topical gloss that the lines illustrated by *Jure quod in opere* and *Que nutritos filios* do. Both the *Chronique métrique* and the *grande chronique* report that “Messire Ferri de Piquegny” led the lords of Picardy and Normandy in the purge of Marigny after the death of Philippe le Bel. The motet may allude not to the Templars, but to the fallen chamberlain. Perhaps the most that can be said with confidence about *Qui secuntur castra* is that the motet, like the moral *dits* of Géffroi de Paris, admonishes the ruler to beware of the false, flattering counselor: “adulator blandus, / Car deçoit roys, princes, contes, dus.” Edward H. Roesner, François Avril and Nancy Freeman Regalado, *Le Roman de Fauvel: In the Edition of Mesire Chaillou de Pesstain: A Reproduction of the Complete Manuscript, Paris, Bibliothèque Nationale, Fonds Français 146* (New York: Broude Bros., 1990), 20-21.
panels from the *Roman de Fauvain*, shows *Fauvain* being stuffed into the mouth of Hell—her punishment for having slain *Loyaute* (i.e., Loyalty)

Two last observations about *Qui / Detractor / Verbum* are necessary here. The first is that if the above analysis makes a plausible case for the non-Pythagorean significance of the three-stroke square-\(b\) \[\text{[ ]}\] in this motet, then the compound sign \([\text{sqb+rdb}]\) n/15 and the sign \([\text{[ ]}]\) o/16 are almost surely equivalent.

This may therefore reflect back on the use of \([\text{[ ]}]\) in the Hu recension of *Flos de spina* to inflect what the very similar sign \([\text{sqb+rdb}]\) in the F recension of the same conductus appears to inflect. In other words, the inflections n/15 and o/16 point back to a possible use of the enharmonic diesis long before Marchetto composed *Lucidarium*.

The second is that the way this sign \([\text{[ ]}]\) is used in the fr.571 recension of *Qui / Detractor / Verbum*, which is to connect microtonal inflection with the evil character of the fox and to juxtapose it against the law-and-order character as represented by Pythagorean intonation
[\textit{Qui} / Detractor / Verbum, which is to highlight only that text referring to the fox, seems deliberately meant to be profane—and not merely secular, but in the sense of contempt, even desecration. It is in great part because of this motet so clearly suggests a link between text and inflection, that it I discuss it at length here, and will return to it again in Chapter IV.

Finally, while \textit{Qui} / Detractor / Verbum is exceptional, it is nevertheless an exception. Its companion, \textit{Ludowice} / Servant regem / Rex regum, also uses inflection to highlight a single, highly charged moment in the text, but it does so as a warning, not as an insult. And the third, \textit{Sus une fontaine}, uses inflection as part of a game—hopefully one in which the listener enjoys taking part.

None of this would have been the case for the three sacred works shown in Table 1 below, all of which exhibit one or more examples of anomalous use:

<p>| Fig.I.9: The Six Works Exhibiting the Phenomenon of &quot;Anomalous Use&quot; |
|---------------------------|-----------------------------|</p>
<table>
<thead>
<tr>
<th>Name</th>
<th>Provenance</th>
<th>Indications</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. \textit{Qui secuuntur} / Detractor est / Verbum iniquum</td>
<td>French</td>
<td>3-stroke sqb, anomalous use, text-music (secular)</td>
</tr>
<tr>
<td>2. \textit{Ludowice} / Servant regem / Rex regum</td>
<td>French</td>
<td>3-stroke sqb, anomalous use, text-music (secular)</td>
</tr>
<tr>
<td>3. \textit{Sus une fontaine}</td>
<td>Italian</td>
<td>dotted signs, anomalous use, text-music (secular)</td>
</tr>
<tr>
<td>4. \textit{Gloria} Spiritus et alme</td>
<td>English</td>
<td>3-stroke sqb, anomalous use, text-music (ecclesiastical)</td>
</tr>
<tr>
<td>5. \textit{Mundi dolens}</td>
<td>Spanish? French?</td>
<td>3-stroke sqb, anomalous use, text-music (ecclesiastical)</td>
</tr>
<tr>
<td>6. \textit{Iesu fili Dei} / Ihesu fili virginis / Iesu lumen veritatis</td>
<td>English</td>
<td>3-stroke sqb, 4-stroke sqb, anomalous use, text-music (ecclesiastical)</td>
</tr>
</tbody>
</table>
Given the texts of nos. 4-6 in Table 1 above—the first of which is liturgical; the second and third, devotional—it is far less clear why some words might have been inflected with diesis, rather than the minor semitone. Yet there are hints: in the troped Gloria Spiritus et alme, the music procedes in long chains of eighth notes, broken by the occasional quarter note, until beat 61, where the text of the Gloria directly addresses Christ, calling him “rex.” At this moment, the forward motion suddenly slows and the monosyllabic “rex” is stretched out over three quarter-notes while being inflected with a three-stroke square-b [⏟]. While there is no way to rank all the words of the Gloria in terms of their relative significance, coming early on (rex is sung over beats 61-63; the whole Gloria extends to 265 beats) and referring to Christ as King, there may be a certain logic to this.

I.4 — Dotted Accidentals and the Question of Text Inflection

There is a second way in which unusual accidental signs appear to be connected with an intent to highlight—or to call special attention to—the text, and this involves permutation and signs with dots in their quadrati. Unlike musica colorata and the three-stroke square-b (or falsa musica), signs with dots lack Marchetto’s testimony regarding their non-Pythagorean significance. But there is both theoretical testimony and evidence from practical manuscripts that explicitly connects them, is hard to explain otherwise.

The theoretical testimony comes from the treatise Tonus dividitur in 3 partes (cf. the discussion of the Berkeley manuscript in II.3) in which the anonymous author signals non-Pythagorean semitones with a dotted sign. Like Marchetto, the author of Tonus dividitur is discussing a division of the tone—though his division is into three parts, rather than the five parts that Marchetto prescribes. And like Marchetto, he uses a special sign to indicate it, though his is a filigreed square-b with four dots, rather than musica colorata.
The first of the practical manuscripts to which I refer above are the *Processionales*, Padua, Biblioteca Capitolare MSS C55 and C56 (hereafter, C55/56), from the Cathedral of Padua. These two identical volumes contain the chants for all the processions that precede the Mass on important feast days. Inserted at the appropriate place in the calendar are seven short, quasi-theatrical events known as “dramatic offices.” Three of these offices feature, in addition to plainchant, a combined total of six, two-voice polyphonic works that use a unique dotted sign to signal inflections (see Fig.I.10a below). Of these six antiphons, two divide a whole tone chromatically—that is, they *permutate*—in the course of the music. Moreover, both use progressions that are among those illustrated in the notated examples of *Lucidarium*.

The parallels between Marchetto, who taught plainchant at the Cathedral of Padua in 1305-06, and these two manuscripts, which were prepared for and by the Cathedral, are unmistakable. Fig.I.10b-c below illustrates the permutation at the opening of *Iste formosus*, which—save for being transposed up an octave—is identical to Ex.3c in *Lucidarium*.

![Fig.I.10: Iste formosus: Text Inflection by Unusual Sign?](image)

The text “Iste formosus [He who is mighty]” is a reference to the Messiah in the Old Testament; in fourteenth-century Padua, “he” would have been understood as Jesus.
Even more remarkable is *Ave gratia plena* (Fig. I.11 below) in which something occurs that Marchetto does not even mention. At its conclusion, the minor third d-f in the cantus, (294 cents) is divided into what appears to be three non-diatonic intervals: d-d\(^x\); d\(^x\)-e\(^x\); and e\(^x\)-f.

If the first of them, d-d\(^x\) signals a chromatic semitone, and taking the measurements of Marchetto’s five-fold equal division of the tone as a model (where *diesis* = 41 cents and *chroma* = 163 cents), then the remaining two intervals would be approximately 66 cents each, or roughly one-third of a tone: (294 - 163 = 131 ÷ 2 = 66 cents) for the intervals d\(^x\)-e\(^x\) and e\(^x\)-f.

If, on the other hand, the unusual dotted signs in this manuscript—with their unique downward-sloping diagonals—represent Pythagorean intonation (despite the fact that the square-b [\(\frac{7}{8}\)] would have sufficed for this purpose), then the division might be Pythagorean: (294 - 114 = 180 ÷ 2 = 90 cents)—in other words, one major semitone (114 cents) followed by two minor semitones (90 cents): d\(^x\)-e, and e-f, though this seems even less likely than the former possibility.

Even if Pythagorean intonation was what was intended in this manuscript, why did the scribe sign such a unique and unusual accidental to inflect e-f, which is already a minor semitone on the *recta* gamut?
This raises a more difficult question: given that the text of this song is dedicated to the Virgin Mary, both as mother of Christ and advocate for salvation, ends: “Free our souls. Grant us salvation [Liberatorem animarum nostrarum. Donantem nobis ressurecionem],” do these unusual signs signal non-Pythagorean intonation, and were they signed so as to underscore the text inflected?

This may sound like a modern concern, and a question moreover that can hardly be asked about persons living seven hundred years ago. Yet Marchetto himself inserts a brief statement in Pomerium 4.16 that suggests a direct connection between text and inflection:

We say that in treating the stems and the dot, we were treating accessories that pertain to music; and because in music there are sometimes ornaments for the beauty of consonances, just as in grammar there are rhetorical ornaments for the beauty of sentences, therefore the treatment of musica colorata should come immediately after the stems and the dot.¹⁷

To understand what Marchetto means by this, it is necessary to know that Pomerium 4 is the fourth of four tracts that begin Pomerium, and which form a primer on the “accessories” of staff notation. The first three tracts deal with rests, stems, and the dot; the fourth is concerned with accidental signs, hence the opening and closing lines, which state and then restate that accidentals come fourth in the discussion of the fundamentals of music.

What comes in between is a remarkable statement likening “ornaments for the beauty of consonances”—which is a reference to Marchetto’s theory of permutation (in which musica colorata signals a chromatic progression, followed by of an extremely wide imperfect

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¹⁷ Quantum ad tertium, dicimus quod per proprietates et pontellum tractatum est de accidentibus ad ipsam musicam pertinentibus, et quia in musica fiunt interdum colores ad pulchritudinem consonantiarum, sicut in grammatica fiunt colores rhetorici ad pulchritudinem sententiarum, ideo statim post proprietates et pontellum debuit etiam tractari de ipsa musica colorata.
progression, followed by the nearest perfect consonance)—to the use of rhetorical ornaments to beautify thoughts.¹⁸

There is no better example of this than the opening of the motet *Ave regina / Mater innocencie / Ite missa est* “Joseph.” Here the g⁸ in the second perfection is signed with *musica colorata*, indicating what to our ears would be a very wide tenth (see Fig.I.12 below).

"The clearest statement Marchetto makes regarding his personal opinion of permutation is *Lucidarum* 2.8.6: “[T]he ‘chromatic’ is called the ‘color of beauty,’ because it is on account of the elegance and beauty of the dissonances (i.e., the very wide imperfect consonances) that the whole tone is divided [into *chroma* and *diesis*] … so that the dissonances may lie closer to the consonances that follow them … [Inde cromaticum color pulcritudinis appellatur, quia propter decorum pulcritudinemque dissonantiarum dividitur bonus ultra divisionem dyatonici et enarmonici generis, ut a consonantia que sequitur dissonantias per nimorem distantiam per motum utriusque distetur ita videlicet quod in tali distantia supra vel infra unius toni prolatio semper extet.”]"¹⁹

I note also how similar this opening is to that of *Iste formosus*, both rhythmically and in terms of the progression: e/g⁸-d₃; see Chapter V.2 for analysis of *Ave / Mater / Ite*, and Chapter VII.4.2 for an analysis of *Ave gratia plena*.
Chapter Two

Written Testimony Regarding the use of Microtones in Medieval Polyphony

II.1 — Guido frater and the Ars musice mensuratae

The first mention of microtonal inflection subsequent to Marchetto occurs in the Ars musice mensuratae of Guido frater, about whom we know almost nothing.1 He was evidently a contemporary of Marchetto, and because the Ars musice mensuratae is essentially an abbreviation of the Pomerium, he was familiar with Marchetto’s writings. Like the Pomerium, Guido’s treatise contains a section on accidental signs and the semitones they signal. The image in Fig.II.1a below contains perhaps seven signs, which I have identified by abbreviation in the row beneath. The text in b) is my translation of Guido’s commentary on these signs:

![Fig.II.1: Guido frater's Illustration of the Square-b and musica colorata](image)

The accidental that Guido calls “the sign of the chromatic semitone” [½] (the third and

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1 The unique recension of Ars musice mensuratae is ff.1r-5r of the MS Seville, Biblioteca Capitular Colombina, 5-2-25; Fig.II.1a is from f.4r; modern edition is Guidonis fratris, ed., F. Alberto Gallo, in Mensurabilis musicæ tractatuli, vol. I of Antiquae Musicæ Italicae Scriptores (Bologna, 1966), 17-39.

2 [½] quadrum in cantu mensurato dupliciter figuratur et ponitur quandoque in spatio quandoque in linea propter decorem et pulcritudinem mediarum consonantiarum, videlicet decime, sexte, et tertie. 3Quando autem tractum sive filum in sursum a sinistris trahitur excedens filum quod stat a dextris, signum semitonii enarmonici est, quo utimur in cantu plano et quandoque in mensurato. 4Quando vero filum in sursum trahitur a dextris excedens quod est a sinistris, signum semitonii cromatici est, quo utimor in cantu mensurato tantum et improprie in cantu plano signatur. 5Exempla predictorum, ut hic in spatio et in linea:
fourth signs from the left above) is identical to Marchetto’s *musica colorata* [\(\frac{3}{4}\)]. And his instructions for distinguishing the two signs by the disposition of their vertical strokes mirror Marchetto’s instructions, as do his comments on where the chromatic sign [\(\frac{7}{4}\)] is appropriate (in mensural music, only) vs. the square-b [\(\frac{5}{4}\)] (in both plainchant and mensural music).

**II.2 — Filippotto da Caserta and the *Regule contrapunci*ti**

The *Regule contrapunci*ti is a discant treatise that survives in three sources. It is attributed to *magistrum phylippotum de Caserta* in one; to *philippotum de Caserta* in another;

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3 *Lucidarium* 8.1: \["\frac{1}{4}\] similiter \(\frac{1}{4}\) quadrum eodem modo per lineas et spacia protratur, \[\frac{1}{4}\] ita tamen quod linea que est in parte sinistra ipsius \(\frac{1}{4}\) in sursum tendat; \[\frac{1}{4}\] que autem in parte dextra, que pro decorc eidem additur, inferius protrahatur in hoc modo: \(\frac{1}{4}\) [let the square \(\frac{1}{4}\) be drawn on the lines or in the spaces … so that the line that is on the left side of this \(\frac{1}{4}\) rise above it, and that on the right (added for the sake of symmetry) be protracted below it in this manner: \(\frac{1}{4}\)]."

4 *Pomerium* 4.17: \["\frac{1}{4}\] Sed quia de proprietatis dictum est quod protractio ipsarum dicit perfectionem secundum plus vel minus; ideo fiat tale signum cum quadam proprietate supra \(\frac{1}{4}\) quadrum, ut hic: \(\frac{1}{4}\). \[\frac{1}{4}\] Sufficit enim ultimiores protractiones facere in ipso quam in \(\frac{1}{4}\) quadro. \[\frac{1}{4}\] Et maxime talis protractio debet fieri in tali signo in sursum et in parte dextra, in qua perfectio innuitur. [Let, therefore this sign be fashioned with a certain “stroke” above \(\frac{1}{4}\) quadrum, as here: \(\frac{1}{4}\). It is necessary to draw longer strokes in this sign than in the \(\frac{1}{4}\) quadrum. And the greatest such lengthening ought to be made to this sign upwards and away from the right part, the side in which perfection is signified.]”

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4 These are: Seville, Biblioteca Capitular y Colombina, MS 5-2-25, ff. 95v-97r [S]; Rome, Biblioteca Vallecelliana, MS B 83, ff.65r-68r [R]; and Florence, Biblioteca Medicea Laurenziana, MS Ashburnham 1119, ff.52r-52v [F\(^\text{1}\)] and ff.77v-78v [F\(^\text{2}\)].


A more recent, more complete edition (with critical apparatus) based on all three sources is Pier Paolo Scattolin, “Le *Regule Contrapuncti* di Filippotto da Caserta,” in *L’Ars Nova Italiana del Trecento*, vol. V, ed. Agostino Ziino, 231-244 (Palermo: Enchiridon, 1985). Scattolin observes in his commentary that the Florence source is incorrectly inventoried in RISM B/III/2; see his commentary, pp.231-32 for corrections and disambiguation.

Gilbert Reaney’s entry on Filippotto in the 2001 edition of the *New Grove*, includes Scattolin’s 1985 edition in the bibliography, but does not incorporate Scattolin’s corrections in the text and list of the possible writings of Filippotto da Caserta.
and in the third is anonymous. If the attributions to Filippotto are correct, the *Regule* might have been written around 1370, or about fifty years after Marchetto wrote the *Lucidarium* and *Pomerium*.

Certain passages in the *Regule* bear a strong resemblance to Marchetto’s theory. The first is the statement that an accidental sign called *diesis* is to be signed before every dissonance (*omnem dissonanciam*), and that by so doing, the “imperfect” is made “perfect” (*perficere imperfectum*). The *Regule*, moreover, identifies such dissonances as thirds, sixths, and tenths (*tercia, sexta et decima*). A second passage states that it is necessary in certain places to use *musica ficta* in order to have a perfect fifth, and that the signs that signal *false musice* are b-rotundum (i.e., [b]) and b-quadrum (i.e., [ascimento]).

The first set of these lines echoes Marchetto’s explanation of the example in Fig.1.3a of the Technical Forward, in which *musica colorata* [¹] inflects the microtone Marchetto calls *diesis*:

The diesis is a fifth of a whole tone, occurring when … any whole tone is divided in two in order to color some dissonance such as a third, a sixth, or a tenth striving toward some consonance.

The second set of lines echoes the progressions of the second example (see Fig.1.4a in the same example referenced above), and in particular, the need to sign square-b [₂] if the fifth between E and b is to be perfect.

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5 Et nota quod ad omnem dissonanciam additur ista figura que vocatur diesis; quomodo ista figura habet perficere imperfectum; puta: tercia, sexta et decima; hoc intellige quando tercia datur ante quintam, tune in illa tercia additur; similiter quando sexta datur ante octavam. Et similiter quando decima datur duodecimam.” (The suprascript line numbers correspond to Scattolin’s edition, p.238; the image of *diesis* is from [S], f.96r, and corresponds to line 26 in the edition.)

6 Et est sciendum quod in b fa mi non possimus habere dyapente per istos duos modos nisi per fictam musicam; et est sciendum quod duo sunt signa false musice scilicet b rotundum et b quadrum.”

7 “Dyesis quinta pars est toni, puta cum aliquis tonus bipartitur propter aliquam dissonantiam colorandam supple terciam, sextam, sive decimam tendendo ad aliquam consonantiam”; *Lucidarium* 2.6.2; see Herlinger, *Lucidarium*, 141.
The true property of the square-b is to divide the whole tone into [the Pythagorean major and minor] semitones.\(^8\)

\* \* \* \* \*

This second distinction affirms one of the foundational understandings of medieval music notation: that the round-b \([\flat]\) and square-b \([\sharp]\) signal the Pythagorean semitones. This understanding can be traced back to Pseudo-Odo and the *Dialogus de musica*, and shortly thereafter to Guido of Arezzo’s *Micrologus*, the two documents that, along with Hucbald’s *Musica*, established the principles of staff notation and the Pythagorean diatonic scale that underpinned the musical training of every novice for centuries to come.\(^9\) It is against this background that the first distinction must be understood: Marchetto’s *musica colorata* exists because it signals semitones that are *not* Pythagorean; so too, presumably, does Filippotto’s *diesis*.

Filippotto is not explicit in the same way as Marchetto—perhaps by c.1370, it was no longer necessary—but why would he use a different sign to signal an imperfect-to-perfect

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\(^8\) “nam propria proprietas: \[h\] est semper dividere tonum per enarmonicum et dyatonicum semitonia”; translation of *Lucidarium* 8.1.18 is ibid, 279. (NB: Marchetto uses his alternative names—*enarmonicum* and *dyatonicum*—for the Pythagorean minor and major semitones.)

\(^9\) Guido, Pseudo-Odo, and Hucbald were the fathers of what has come to be known as “harmonic theory.” Loosely defined, this was the set of rules borrowed from the Greeks and superimposed upon an already extant corpus of plainsong that had a logic of its own, and over which the new rules only sometimes fit. This earlier tradition, or “cantus theory,” was based on the practice and experience of those who sang this music, and the extent to which there was a logic to it was determined by the music itself, rather than a set of molds into which it had to fit. The following quotation expresses the problems of trying to combine the two phenomena:

“What Pseudo-Odo says, in essence, is that if a chant does not fit the system, then the notes of the chant—widely presumed to have been divinely inspired—should be changed. It seems not to have occurred to him that perhaps the system itself ought to have been changed. Obviously, the attempt to apply Boethian mathematical precision to the body of chant and the habits of singer, both of which had developed over the course of centuries, could not be completely successful. There were, in fact, a number of problematic chants that lay at the very heart of the repertoire—chants that ‘suggested one tone at the beginning, another in the middle, and yet another at their end’ (Regino), or that contained notes not in the system. Without the flexible tone-system and method of classification offered by the chant treatises, such as the [earlier] *Musica enchiriadis*, the only solutions for such pieces were (1) to transpose them, or (2) to “emend” them according to the mode with which they least disagreed. Theory that had originally been conceived as a method of classifying and rationalizing plainchant now became a Procrustean bed that forced modifications in the very melodies it was supposed to help preserve.” Charles M. Atkinson, *The Critical Nexus: Tone-System, Mode, and Notation in Early Medieval Music* (n.p.: Oxford University Press, 2009), 219.

Though Atkinson does not mention this, among the “habits of singer” were microtones, which could only be expressed in notation by means of special accidental signs.
progression if the semitone involved were Pythagorean and a square-b [♭] would suffice? And is it a coincidence that he calls his sign by the same name as Marchetto’s smallest division of the tone?

* * * * *

Two related issues need discussion here before moving on. In the Seville recension of the *Regule*, the sign that Filippotto calls *diesis* is that sign we now call the sharp [♯]; in the Rome recension, it is the *b-iacente* (or recumbent-b): [♭]. The latter looks to be a sharp that has been turned counter-clockwise about fifteen degrees, and now fits into a narrower space than the sharp, which may have been the motivation for this change.

The larger question, though, is whether Filippotto’s *diesis*—hereafter, just “sharp” (to avoid confusion with the micro-interval)—is a graphic variant of Marchetto’s *musica colorata*. In the context of the *Regule*, this seems like a plausible conclusion. Fig.II.2. below compares three early examples of *musica colorata* to the sharp from Seville:

![Fig.II.2: Comparing musica colorata to the Sharp](image)

Marchetto’s instructions in Pomerium for drawing *musica colorata* indicate that the vertical strokes are the opposite of those of square-b [♭]: that is, left-descending; right-ascending. This can clearly be seen all three examples above, especially c), from the motet *Ave*

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10 There are no graphics in the Florence recension.
11 The first two examples are from the earliest recension of *Lucidarium* and *Pomerium*: Milan, Biblioteca Ambrosiana MS D 5 inf.; a) is from the fifth example from *Lucidarium*; b) is the illustration of *musica colorata* in *Pomerium*; the third example, c), is from Oxford, Bodleian Library, MS canon. class. lat. 112.
regina / Mater innocencie / *Ite missa est* “Joseph” where the vertical strokes occupy the intervallic space of a seventh. And while the sharps in d) are far less attenuated, they resemble musica colorata in every respect but one: in musica colorata, the diagonal strokes stay within the vertical strokes; in the sharp, the diagonals exceed them.

There is no formal study, so far as I am aware, that traces the origins of the sharp. David Hiley’s article on accidentals in the *New Grove* indicates the sharp is an alternate form of the square-\[\text{b}\][\text{]\,\], and found as early as the thirteenth century.\(^{12}\) While I have not been able to conduct an exhaustive search of thirteenth century sources, those that I have consulted—the Notre Dame sources, and those of the early motet—have not a single sharp. An exhaustive search for the origins of the sharp proved to be beyond the scope of this thesis.\(^{13}\) Suffice it to say that the sharp appears in the early-to-mid fourteenth century, along with the other unusual accidentals under consideration here. It was called diesis, and it may well have had non-Pythagorean significance, especially if was a graphic variant of musica colorata. It seems to have morphed into the b-iacente, or “recumbent-b,” by the end of the fourteenth or early fifteenth century, and to have remained in use in this form well into the sixteenth. The name “sharp” is anachronistic for use in medieval and Renaissance music; the earliest use of it that I have found is in Thomas Morley’s *A Plaine and Easie Introduction to Practicall Musicke* of 1597.\(^{14}\)

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\(^{12}\) “The form \[\text{b}\] for the quadratum is found as early as the 12th century, and \[\text{b}\] in the 13th.” *The New Grove* 2nd ed., s.v. “Accidental” (by David Hiley).

\(^{13}\) But see the discussion of the sharp and the “swung” sharp in Chapter VIII (Conclusion).

\(^{14}\) “The b clef … is made thus \[\text{b}\] or thus \[\text{b}\] the one signifying the half note and flat singing, the other signifying the whole note or sharp singing.” *A plaine and easie introduction to musicke*, 1st ed., London, 1597. Reprint, New York: Norton, 1973, p.12.
II.3 — The Berkeley Manuscript and *Tonus dividitur in 3 partes*

The Berkeley Manuscript (University of California, Berkeley, Music Library MS 744)\(^{15}\) consists of five theoretical treatises which purport to be the work of a single author.\(^{16}\) The first three deal with mode, discant, and mensural notation, respectively. A colophon at the conclusion of the third treatise reads “Paris, 12 January, 1375,” suggesting that the manuscript, as originally planned, included just these first three treatises.

The fourth and fifth treatises are speculative—in contrast to the first three, which are entirely practical. They were evidently copied by the same scribe, but their dates are unknown and their authorship is uncertain.\(^{17}\) Whoever the author was—or authors were—Ellsworth notes that the author of the first three treatises was clearly “in command of his material,” while the author of the fourth and fifth treatises “did not fully comprehend the significance of his material”—a lack of understanding that “the scribe may very well have shared.”\(^{18}\)

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\(^{15}\) The “Berkeley Manuscript” was purchased at auction in 1965. It had last changed hands when it was acquired from an unknown source by the British bibliophile Sir Thomas Phillipps in the early nineteenth century; prior to its sale to Berkeley, its contents were unknown. Oliver B. Ellsworth made it the subject of his doctoral thesis, “The Berkeley Manuscript (olim Phillipps 4450): A Compendium of Fourteenth-Century Music Theory,” PhD diss., University of California, 1969, and later published the critical edition and translation from his dissertation as *The Berkeley Manuscript: University of California Music Library MS. 744 (olim Phillipps 4450)* (Lincoln, Nebraska: University of Nebraska Press, 1984). Ten years earlier, Ellsworth published a study of the manuscript’s fifth treatise—known by its incipit as *Tonus dividitur in 3 partes*—as “A Fourteenth-Century proposal for Equal Temperament.” *Viator* 5 (1974): 445-453. None of the substance of this article is included in the Introduction to his 1984 monograph, save for a discussion of potential authorship of Treatise Four that was unknown in 1974, and which is a necessary correction to Ellsworth’s *Viator* article; (see the note immediately below).

\(^{16}\) Ellsworth notes on p.446 of his *Viator* article that the author claims throughout the document to be the same person, and that there seems to be no reason to doubt him. A concordant recension of Treatise Three—Catania, Biblioteche Riunite Civice e A. Ursino Recupero D. 39—ascribes that treatise to one Goscalcus Francigenus. Christopher Page has argued that a possible acrostic in Treatise Four names Jehan Vaillant as its author: “Fourteenth-Century Instruments and Tunings: A Treatise by Jean Vaillant? (Berkeley, MS 744),” *The Galpin Society Journal* 33 (1980): 18-20. Subsequent to this, Ellsworth allows that the manuscript might “simply be a compilation of works by the two authors” but if so, the statement at the beginning of the fourth treatise claiming single authorship “would … be deliberately misleading (or would refer to other material). Under the circumstances, the safest course for the present is a guarded assumption of anonymity for all treatises of the Berkeley manuscript”; see *The Berkeley Manuscript*, 15

\(^{17}\) See note 15 above.

\(^{18}\) “The [bulk] of the treatise concerns intervallic relationships within the tone and, in particular, the use of accidentals to produce two sizes of semitone. Owing presumably to the comparative lack of experience on the part of the author in this field, there are numerous small errors in … the material; in most cases these can be handled with
The above notwithstanding, the fifth treatise, *Tonus dividitur in 3 partes*, is nonetheless a remarkable document. Just 352 words long, it proposes a non-Pythagorean division of the tone into three parts, with a chromatic semitone of one-third parts, and a diatonic (i.e., mi-fa) semitone of two-thirds parts. And it uses a dotted, filigreed accidental in both the running text and the music examples to indicate the two-thirds diatonic semitone. In so doing, it connects its unusual sign (see Fig.II.3 below) with the explicitly non-Pythagorean intonation it describes:

<table>
<thead>
<tr>
<th>Fig.II.3: Where—and with what Sign—the Diatonic Semitone is Indicated</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image-url" alt="Image" /></td>
</tr>
<tr>
<td>a) US-Bem MS 744: f.60v, Col.A, lines 27–30</td>
</tr>
</tbody>
</table>

… in fine cuiuscumque ascensus inter penultimam et ultimam semper sub intelligitur [ ] ut hic patet:

… at the end of any ascent between the next-to-the-last and the final note, a [(dotted, filigreed) sqb] is always understood on the lower note as shown here:

Accidental signs with dots are found in great numbers in early fifteenth-century Italian manuscripts (see Chapter IV), but are first found in manuscripts of French or northern provenance, and from the first half of the fourteenth century: the Turin motet codex (I-Tr MS vari 42), a Liègeois manuscript that Mark Everist places at about the same time as the

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relative ease. More exasperating, however, are the frequent omissions, often of logical steps in reasoning which we certainly need today, even though they may have been axiomatic in the mind of the author.” Ellsworth, “A Fourteenth-Century Proposal,” 446.

To be sure, the language of the fifth treatise is awkward and clipped, and often there is the sense that more could have been said about the subject. But the accidental signs that the scribe uses demonstrate an unusual degree of variety: a square-b adorned with dots and filigree; a square-b with a third diagonal stroke—sometimes with, sometimes without—filigree; a third sign with the diagonals of the modern sharp and the vertical strokes of the square-b; (what I call a “hybrid” sign). It’s possible that this variety of signs represents a “lack of experience,” as Ellsworth seems to suggest, but it is just as possible that it is we who lack the necessary understanding needed to interpret them.
interpolated *Roman de Fauvel*, or c.1317-20; the Mass of Tournai (B-Tc MS A27), which was copied in or near Tournai, c.1350, but contains music from the 1310s; and the treatise *Tonus dividitur in 3 partes* from the Berkeley Manuscript (US-BEm MS 744). The Turin MS places these signs just after the writing of *Lucidarium* and *Pomerium*, while the motet *Se grasse / Dum venerit / Ite missa est* from the Mass of Tournai indicates that non-Pythagorean inflections seems to have been composed in the years just prior to *Lucidarium* but also far to the north of Padua.

While the filigree on the vertical strokes of the Berkeley signs is unique, the use of dotted signs to signal a one-third, two-thirds division of the tone directly connects them with non-Pythagorean intonation.

While the connection of unusual accidental signs and non-Pythagorean intonation in *Tonus dividitur* is certainly deliberate, the intonational system outlined therein is very different from that described in *Lucidarium*. While the former is notable for its wide diatonic semitone (136 cents vs. 90 for the Pythagorean minor), the essence of the latter is the 41-cent microtone Marchetto calls *diesis*. The wide diatonic semitone of *Tonus dividitur*, moreover, produces “relaxed” thirds and sixths resembling those of mean-tone tuning; if we take Marchetto’s five-fold division literally, his *diesis* results in thirds and sixths that are wide to the point of instability, and perhaps impossibly wide.

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21 See Newes’s discussion of *Se / Cum / Ite*, see Newes, “Early Fourteenth-Century Motets”, 44.
22 Jan Herlinger explains that if we deduce the major sixth based on Marchetto’s five-fold division of the tone by subtracting the width of the tone, 204 cents and that of the *diesis*, 41 cents, from the 1000 cent octave, the 955 cent
This is why the three-fold division is significant, not as it is used in the Berkeley MS, but as Ciconia appears to use it: with the one-third part functioning as the diatonic semitone.

II.4 — Ciconia and Chapter 23 of *Nova musica*

During the preparation of her critical edition of the music of Johannes Ciconia, Suzanne Clercx suggested that the unusual accidental signs she had encountered in the sources might correspond to one of the four semitones described by Marchetto in *Lucidarium*. Clercx did not attempt to demonstrate this, but she did call attention to a passage on semitones in Ciconia’s *Nova musica* in which Ciconia, after discussing what the ancient authorities had to say about semitones—how many there are, their names, sizes, and proportions—turns the discussion to the then-current understanding of semitones. Clercx misunderstood this passage, primarily because both Ciconia and Marchetto refer to a semitone which, despite having the same name—*diatonicum*—has a different size and function for Ciconia than it does for Marchetto.

For Marchetto, the *diatonicum* was the equivalent of what we now call the chromatic semitone; (i.e., $\flat\flat-\flat\flat$). For Ciconia, *diatonicum* meant what the name now means to us: the diatonic semitone: (i.e., $\flat-\flat$). Ciconia goes on to list the three semitones then in use: the chromatic, diatonic, and enharmonic—and to present them in a set of line drawings in which they are compared and contrasted:

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major sixth that results is “impossibly large—closer to the modern minor seventh than to the major sixth”; see “Marchetto’s Division of the Whole Tone,” *Journal of the American Musicological Society* 34/2 (1981): 193-216 [209].
There are problems with both of these drawings. While Ciconia does not label the rectangular box in (a), it appears to represent the whole tone. And while the width of the enharmonic semitone as it intersects the top line is almost exactly one-third the width of the full rectangle—and thus suggests a three-fold division of the tone—the representations of the chromatic and diatonic semitones are badly out of scale. The sum of these two semitones should equal the whole tone, not exceed it.

In (b), on the other hand, the three semitones are arranged in order of descending size from left to right, and therefore span more than a tone, yet the rectangular box is barely larger than that in (a). That the chromatic semitone is larger than the diatonic confirms for us that Ciconia’s semitones are not those of the Berkeley manuscript, but its proportions do not make it possible to confirm the division of the tone, which the first diagram suggests is three-fold like that of MS 744.

Yet just below and to the right of (b) is a very small snippet of notation showing the diatonic semitone on staff lines, and preceded by a caption; (see Fig.II.5):
What this tells us is the following: a) Ciconia’s *diatonicum* is equivalent to the Pythagorean minor; b) if his enharmonic semitone is one-third of a tone, then his chromatic must be two-thirds, (i.e., the opposite of *Tonus dividitur*); c) the system Ciconia is outlining is similar to but not as extreme as that which Marchetto describes in *Lucidarium*; and d) that by the late fourteenth or early fifteenth century, non-Pythagorean intonation was an accepted fact—one that did not require the kind of tortured logic that Marchetto felt compelled to use in order to justify his five-fold division of the tone.

And finally, the coincidence of dotted signs in the Berkeley manuscript and in the Paduan manuscripts that transmit Ciconia’s music suggest that this sign, which appears to have originated in France or the Low Countries, migrated southward, perhaps with Ciconia, possibly also with the flow of musicians, especially from the area of Liège, that came to Italy in the closing years of the fourteenth century. That they brought the dotted accidental sign with them, and that it found its way into the Padua fragments, Pr, and Q15 is a possibility to which I will return in Chapter VII

**II.5 — Frater G. de Anglia**

On f.9v of the manuscript Chicago, Newberry Library, Case 54.1, there is a circular representation of a whole tone divided into nine equal parts; (see Fig.II.6 below). A close

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23 I thank Professor Anne Stone for bringing this diagram to my attention. The manuscript is dated “Pavie. scriptum octobris 1391 per frater G. de Anglia” on f.6v; see RISM B/IV/4, 1169; see also Herlinger, *Lucidarium*, 35 nn. 30-31.
examination of the diagram, however, shows that it was originally divided into five equal parts, and later re-drawn as a nine-fold division of the tone.

The original purpose of this diagram was to model a five-fold division of the tone along the lines of Marchetto’s statement in *Lucidarium* 2.7.14:

“Continet sicque enarmonicum duas dyeses, dyatonicum tres, cromaticum quatuor; tonus vero ex quinque dyesibus est formatus [Thus the enharmonic semitone contains two

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[24] The surrounding text does not pertain to this diagram. Jan Herlinger does not mention this diagram in connection with his article “Fractional Divisions of the Whole Tone,” *Music Theory Spectrum* 3 (1981): 74-83, in which the discussion of the nine-fold division begins with Gaffurio in 1480; see ibid., 80. The Case 54.1 diagram suggests it may have been contemplated at least a century earlier.
dieses, the diatonic three, and the chromatic four, whereas the whole tone is made up of five dieses].”

The scribe began by drawing the large circle and horizontal diameter. He then drew four interior circles, each of them originating at “re,” that is, the right-most point of the diameter. Where each circle intersected the central diameter in the direction of “ut,” its crossing measured out the width of one diesis.

For reasons that I am unable to discern, the five-fold division was then erased and replaced with the nine-fold division. Whether this was the work of one person, or more than one, I am likewise unable to tell. The outlines of the original circles, however, are still partially visible, along with parts of the original circles. Of particular interest is the intersection of the second of the five-fold circles with the central diameter; (see Fig.II.7a below):

Fig.II.7: Enlargements of Central Diameter Showing New and Old Divisions

a) Nine-fold divisions • 4 • 3 • 2 • 1 •

b) Nine-fold divisions • 9 • 8 • 7 • 6 • 5 •

The faint circle just to the right of diameter • 4 • was originally marked out the width of the two-diesis wide enharmonicum, i.e., Marchetto’s equivalent of the Pythagorean minor semitone. The replacement circle, which now intersects the diameter at • 4 •, has a legend that reads: “enarmonicum continet • duas • partes • (ie) • [duas • 5tas [the enharmonicum contains two parts, i.e., two fifths].”

25 Herlinger, Lucidarium, 148-149.
26 Translation mine, but transcription of this legend (and those of the other three circles) by Lucy E. Cross, “Chromatic Alteration and Extrahexachordal Intervals in Fourteenth-Century Polyphonic Repertories” (PhD Diss., Columbia University, 1990) 342, 344.
Here the scribe stumbled: the diameter of the new circle is not two-fifths of the tone, but four-ninths. What the scribe could not have known (since logarithmic cents did not exist in 1391) is that whereas the Pythagorean minor semitone is 90 cents wide, the two-fifths tone *enharmonicum* measures only 82 cents. The 91-cent wide, four-ninths semitone, on the other hand, is an almost exact match for the Pythagorean minor.

What is especially remarkable about this diagram is that the difference between the two derivations is made visible, perhaps for the first time. And while there might have been other reasons as to why the five-fold division was replaced, it seems plausible to assume that the person (or persons) responsible for the nine-fold division recognized that it was a more accurate means of dividing the tone.

As well as more useful: at diameter • 6 •, for instance, the legend surrounding the circle identifies it as encompassing the *dyatonicum*, Marchetto’s oversized (122 cent) equivalent of the (114 cent) Pythagorean major semitone. This circle is not three-fifths of a tone as its legend indicates, but six-ninths. In other words, it divides the tone into one-third, two-thirds parts—the same division as *Tonus dividitur*, and probably that of *Nova musica*.

* * * * *

The utility of the nine-fold division is belied by the scribe’s insistence upon adhering to the language and concepts of Marchetto’s five-fold division. In spite of the evidence before him, he seems unaware that his task is impossible, and that the two divisions cannot be harmonized. He does nevertheless provide us with some important testimony on accidental signs: he confirms that square-b [ Bartók symbol] signals the Pythagorean minor; he connects this sign [ Bartók symbol], which is found in early fourteenth-century French, Italian, and English sources, to the *diesis*; and he connects these signs [ Bartók symbol; Bartók symbol] to the *diatonicum* and *chromaticum*. The three-stroke sign is found in French, and
in abundance in English sources.

I know of only two instances of the four-stroke square-b, both of which are signed in the motet *Jesu fili Dei / Ihesu lumen veritas / Jesu fili virginis*.\(^{27}\) The four-stroke sign is always paired with a three-stroke sign, both of which always inflect bmi as it moves towards or away from cfa. When approaching cfa, the three-stroke sign might indicate a narrower-than-Pythagorean interval; when moving away from cfa, the four-stroke sign suggests a wider-than-Pythagorean interval. Thus, the pitch of bmi appears to be somewhat flexible. While the motet is not under any signature, its final is on F, and round-b is always signed before or after (or both) .b. has been so inflected, as if to restore a benchmark pitch between are and cfa. Given my conclusion that the three-stroke *b-quadrati* I found in the sources were practical forms of the script version that appears in M, and that it was the medial diagonal stroke that signaled the bisection in these sources, it’s possible that a division of the square-b by two interior diagonals signals the division of not the semitone, but the tone into three parts, as theorized by the Berkeley manuscript.

**II.7 — Prosdocimo de’ Beldomandi and the *Musica speculativa***

In his eighth and final treatise, *Musica speculativa* (1425), Prosdocimo de’ Beldomandi wrote a detailed account of what he saw as the “evils, lies, and mistakes” of Marchetto’s five-fold equal division of the tone.\(^{28}\) Underlying Prosdocimo’s criticism was Marchetto’s violation of Pythagorean mathematics, by which the tone cannot be divided into equal parts.\(^{29}\) Prosdocimo,

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\(^{27}\) From GB-DRc MS C.1.20 no.3, f.2; analyzed in Chapter VI.7.

\(^{28}\) The critical edition and English translation of this text is Jan Herlinger, *Prosdocimo de’ Beldomandi’s Plana musica and Musica speculativa* (Urbana and Chicago: University of Illinois Press, 2008).

\(^{29}\) Dividing 9:8 by two results in 2048:2187 and 243:256, which are the ratios of the chromatic and diatonic semitones, respectively; their relative sizes may be more easily grasped when expressed in logarithmic cents, i.e., 114 cents for the chromatic semitone and 90 cents for the diatonic.
who was an “expert mathematician,” had no trouble proving this,\textsuperscript{30} and it is enlightening to contrast Prosdocimo’s methodical demonstration with Marchetto’s less-than-clear logic.\textsuperscript{31}

Nevertheless, that Prosdocimo would devote the time and energy to so discredit Marchetto is in itself an indication that microtonal semitones were still in use more than a century after \textit{Lucidarium} was written. Just as significant are Prosdocimo’s references to the spread of Marchetto’s theory:

Considering … that the errors of this Marchetus \textit{had been circulated throughout Italy and beyond}, and had been held as most true by singers (yet not by theorists), my aforesaid brother entreated me … to compose a little work against these errors so that the evils, lies, and mistakes concerning music that had been brought forth and disseminated by one Paduan might be removed by another, and thus Italy be purged of such errors.\textsuperscript{32} [emphasis added]

… and to those who practice it:

The moderns, however … acting arbitrarily and without reason, set down in place of the square-b a cross like this, \begin{math}\bigodot\end{math}, and some of the more modern ones a sign like this, \begin{math}\bigotimes\end{math}, also proceeding arbitrarily and without reason—the greater part of these, and especially the Italians, following the false teaching of the Paduan Marchetus.\textsuperscript{33}

The second of the two signs in the quotation immediately above will be discussed in Chapter VII.5.6.1, when it appears in the ModA recension of Filippotto da Caserta’s \textit{En remirant vo douce pourtraiture}. As for Prosdocimo’s observation that Marchetto’s “evils, lies, and mistakes” had “circulated throughout Italy and beyond,” there is evidence from English, French, and Spanish sources that indeed they had: sources with unusual accidental signs from all three of

\begin{footnotesize}
\begin{itemize}
\item \textsuperscript{30} “Prosdocimo’s works on arithmetic and astronomy are those of an expert”; Herlinger, \textit{Plana musica} and \textit{Musica speculativa}, 5.
\item \textsuperscript{31} Herlinger sums up the major points of Prosdocimo’s deconstruction of \textit{Lucidarium} 2.4-2.6 in the Introduction to his critical edition and translation of \textit{Musica speculativa}; see ibid., 1-6 and especially 15-20. It’s worth noting that Herlinger concludes his introduction by saying that while “Prosdocimo may have had logic on his side … Marchetto’s [ideas] proved to have the greater durability”; ibid., 20.
\item \textsuperscript{32} “Concernens igitur michi frater supradictus errores huius Marcheti per totam Ytalianam, et adhuc extra, fore divulgatus, et verissimos a cantoribus, non tamen musicis, reputatos, me rogavit ut sui amore contra hos errores opusculum componerem ut mala atque falsa et in musica erronea que per unum patavum producta et seminata fuerant, per alium patavum removerentur, et inde Ytalia a talibus aquiievi”; ibid., 158–59.
\item \textsuperscript{33} “Moderni tamen factum non intelligentes, se ad libitum et absque ratione agentes, loco \begin{math}\bigodot\end{math} quadri ponunt talem crucem \begin{math}\bigodot\end{math}, et aliqui moderniores tale signum, \begin{math}\bigotimes\end{math}, etiam ad libitum et absque ratione operantes, et horum plurimi et maxime ytalici, falsam doctrinam Marcheti paduani inequentes”; ibid., 212–13.
\end{itemize}
\end{footnotesize}
these countries are examined and analyzed in Chapter VI. But Prosdocimo was correct in recognizing that Italians seemed to have a special affinity for this phenomenon:\footnote{In *Musica speculativa* 3.11, Prosdocimo lists what he calls the “principal falsehoods” that Marchetto spread throughout Italy: a) his five-fold division of the tone; b) his calling each one-fifth part of this division by the name *diesis*; and c) his use of the names chromatic, diatonic, and enharmonic to refer to semitones, when these names are properly those of tetrachords, instead. After repudiating Marchetto on each, Prosdocimo repeats: “this is also one of principal falsehoods disseminated by him throughout all Italy”; ibid., 239.} the bulk of the music examined in this thesis—every work in Chapters V and VII—is Italian.

As to whether Marchetto was its author, as Prosdocimo thought, the research I present in this chapter—a re-examination of Marchetto’s failure to explicitly name the sign he uses in *Lucidarium* \[?] to distinguish *diesis* from the Pythagorean minor, and a new translation and analysis of the treatise in *Pomerium* in which he does name it—strongly suggests that he was not. Instead, it appears that Marchetto was the first to write about the phenomenon, and that in so doing, his intent was not only to theorize about it but also to impose his ideas upon both its notation and its nomenclature.

Finally, there is no evidence that Prosdocimo achieved his stated purpose, that is, to dissuade the *moderniores* from using non-Pythagorean intonation, for as he was composing *Musica speculativa*, the first stage of the monumental manuscript Q15 was in the process of being copied. If the dotted accidental signs that inflect the music of Ciconia and the earliest music of Dufay signal non-Pythagorean intonation, then not only did Prosdocimo fail to exterminate the practice, he may also have misattributed its origin. The possibility that it arose not in Italy but in the Franco-Flemish regions of northern Europe—not incidentally the birthplace of Ciconia and Dufay—will be addressed in Chapter VII.5.
Chapter Three

Close Encounters with Microtones

III.1 — Gerbert 1784

Martin Gerbert, Prince-Abbot of the Abbey of St. Blasius, was an eighteenth-century German theologian and music historian who, beginning about 1770, began to transcribe and edit treatises of medieval music theory, including Marchetto's *Lucidarium* and *Pomerium*. His collected set of editions was published in 1784 as the three-volume *Scriptores ecclesiastici de musica sacra potissimum*; (hereafter, *GS*).¹

Gerbert’s work places him among the founders of modern historical musicology with Burney, Hawkins and Forkel. Though the texts as rendered in his *Scriptores* are faulty by modern standards, they are one of the most important collections of original documents in medieval music and music theory. Only with extensive scholarly study after 1945 have substantial improvements been made on Gerbert’s editions.²

Though the *Scriptores* was a remarkable feat, and while it is not my intention to diminish his accomplishment, Gerbert did not transcribe the musical examples of *Lucidarium* accurately. For the special accidental sign Marchetto used to signal the non-Pythagorean semitones *chroma* and *diesis*, Gerbert substituted first a double sharp, and later the natural sign, to the serious detriment of anyone trying to understand Marchetto.

Gerbert collated his edition of *Lucidarium* from two sources: Milan, Biblioteca Ambrosiana, D.5 inferiore, (siglum *M*); and Rome, Biblioteca Apostolica Vaticana, Vaticanus latinus 5322, (siglum *R*).³ As it happens, *M* is both the earliest and the best recension of

¹ *Scriptores ecclesiastici de musica sacra potissimum*, ed. Martin Gerbert, 3 vols. (Typis San-Blasianis, 1784; Facsimile reprint, Milan: 1931), 3:65-121 (*Lucidarium*); 121-188 (*Pomerium*).
² *The New Grove* 2nd ed., s.v. “Gerbert, Martin, Freiherr von Hornau” (by Howard Serwer).
³ Gerbert indicates only the Ambrosiana source on the title page of his edition of *Lucidarium*; see GS, 3:64.
Lucidarium extant, and the only source to use Marchetto’s musica colorata sign consistently and accurately.⁴ R is a fifteenth century—possibly late-fifteenth century—recension, and while it, too, transmits both treatises, neither its accidental signs nor the manner in which they are used is faithful to Marchetto’s intent.

M exclusively uses musica colorata [ㅠ] to signal chroma and diesis, and where the Pythagorean minor is required, it uses the square-b [ }: R, on the other hand, indiscriminately signs the sharp [ʼ'] and a second, hybrid sign [ʼ] without regard to the semitone needed. Its Lucidarium text, moreover, is “not very good.”⁵

These facts notwithstanding, Gerbert followed the example of R in his transcription of the notated examples from Lucidarium. His reproductions of the first three of Marchetto’s examples of permutation (Exx.3-5) are illustrated below:

<table>
<thead>
<tr>
<th>Fig.III.1: Gerbert’s Reproduction of Luc. Exx. 3, 4, and 5</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Image" /></td>
</tr>
<tr>
<td>Ex.3) ( \text{X} ) signals chroma &amp; diesis</td>
</tr>
</tbody>
</table>

In the first example (Ex.3), Gerbert substitutes the b-iacente [ʼ] for Marchetto’s [ㅠ] sign; in the next (Ex.4), he uses the square-b [ }: which is correct and which follows Marchetto’s example in M. In Ex.5, however, Gerbert substitutes the square-b [ }: for \( \text{X} \), which in the first example is already standing in for \( \text{ㅠ} \).

It is here that Gerbert goes astray, and with him, his readers. In the M recension of Lucidarium, Ex.5 is a nearly identical copy of Ex.3, which Marchetto repeats in order to

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⁴ Herlinguer, Lucidarium, 27. (Jan Herlinguer calls Marchetto’s special accidental sign falsa musica, but on the basis of my reading of Pomerium Book I, Tract IV, I refer to it throughout this thesis as musica colorata; see §I.5.1-3.)

⁵ Ibid., 53.
underscore the fact that this sign \( \text{\textdagger} \) has a different meaning than this: \( \text{\textdaggerdbl} \). In Gerbert’s edition, however, the square-b \( [\text{\textdagger}] \) signals, first the Pythagorean semitones, then Marchetto’s non-Pythagorean semitones. These two examples, moreover, appear side by side in GS (Fig.III.2):

![Excerpt from GS 3:74 Showing Juxtaposition of Luc. Exx. 4 and 5](image)

The accidental signs of Pomerium 4 fared no better. In Fig.III.3 below, the signs as they appear in M are aligned vertically in Col. a, and likewise for their transcription in GS in Col. b.

![false musica & musica colorata in M (col. a); and in Gerbert (col. b)](image)

Reading left to right across the rows shows how inaccurate in both scale and representation Gerbert’s transcription is: \textit{falsa musica} is reduced to a round-b \( [\text{\textdagger}] \); \textit{musica colorata} \( [\text{\textdaggerdbl}] \), to a square-b \( [\text{\textdagger}] \).
Here at least, Gerbert does explain why he substitutes the square-b [illus.] for *musica colorata* in *Pomerium*:

Hoc [illus.] secundum superius magis esset protrahendum, quod tamen ob typum hic non licet [The square-b above should be drawn more elongated, but on account of its shape, this is not possible.].

What he meant by this is that the proportions of *musica colorata* [illus.] were too big to fit in the composition trays of his printing press. As can be seen from the images in Fig.III.3a above, an accurate reproduction of *musica colorata* would have stretched vertically across three lines of type, and not only would Gerbert have had to cast a new piece of type, he would either have to construct a special tray that would fit its dimensions, or modify an existing one, neither of which he evidently deemed have been practical.

The result is that no one could possibly know from reading his edition what he meant by “drawn more elongated,” much less discerned what the sign in question [illus.] actually looked like. It does suggest, however, that Gerbert still had access to M—or to a recension of it that retained its characteristic shapes—while he was editing *Pomerium*.

**III.2 — Fétis, Ambros, Riemann**

The quotations below, from three theorists—Francois Joseph Fétis, August Wilhelm Ambros, and Hugo Riemann—whose writings span the mid-nineteenth to the early twentieth centuries, are indicative of how Marchetto was viewed one-hundred to one-hundred-fifty years

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6 Note (a), GS 3:136.
ago, at which time, access to Marchetto’s theory could only be had via Gerbert’s *Scriptores*:

The harmonic successions in these examples are prodigiously daring for the time they were conceived. They seem to create immediately a new tonality; but they were premature, not understood by musicians, and remained meaningless until the end of the sixteenth century.\(^7\)

These fertile ideas [concerning chromaticism] went unheeded.\(^9\)

Marchettus himself, incidentally, proves to be a daring innovator, because he is the first to allow chromatic progression of the voices, which he defends intelligently. In this he is far ahead of his time.\(^10\)

It is evident that all three theorists looked at Marchetto’s examples of permutation and saw the chromatic motion therein—the inception of which they were amazed to discover had occurred nearly three hundred years earlier than what was thought at the time—but none makes any mention of the fact that these same examples illustrate Marchetto’s microtonal *diesis* and its very wide counterpart *chroma*. This suggests that: a) they either did not read the text that encompasses these examples (i.e., *Lucidarium* 2.5-2.8; about 550 words) or b) they didn’t understand it.

Would it have made a difference had Gerbert accurately reproduced Marchetto’s *musica colorata* sign? Perhaps. Given the musical world in which these three theorists worked, however, it seems more likely that the notion of microtonal intervals was simply outside their conception.

\(^7\) Bibliographic citations and original text from: Herlinger, “Marchetto’s Division of the Whole Tone,” 193 n. 3; translations of the first two quotations, this author.


III.3 — Leo Schrade

As editor of Volume I of *Polyphonic Music of the Fourteenth Century*, (hereafter, PMFC), Leo Schrade had to prepare collations of the nine motets in the “interpolated” *Roman de Fauvel*—Paris, Bibliothèque Nationale, MS fn. fr. 146; (hereafter, fr.146)—for which there were recensions in one or more later manuscripts. As he was collating the recensions of *O Philippe* / *Servant regem* / *Rex regum* and *Qui secuntur* / *Detractor est* / *Verbum iniquum* in fr.146 with those in the manuscript Paris, Bibliothèque Nationale, fn. fr. 571 (hereafter fr.571), Schrade encountered an accidental sign that was ostensibly a square-b [ ], but which had an unusual third diagonal stroke [ ]. Fig.III.4 below shows all of these three-stroke signs from fr.571 (a, c-g), plus the single cognate (b) from fr.146:

![Fig.III.4: The Six Unusual b-quadrati in fr.571](image)

Schrade’s commentary to PMFC vol. I (published separately in typescript) lists ten manuscripts which he consulted for his edition: (1) Bruxelles, Bibliothèque Royale MS 19606; (2) British Library MS Add.28550; (3) British Library MS Add.41667 (Mac Veagh Fragment); (4) Munich, Staatsbibliothek Fragment D IV; (5) Paris, Bibliothèque Nationale MS fn. fr. 571; (6) Paris, Bibliothèque Nationale MS Picardie 67; (7) Rostock, Universitätsbibliothek, MSS phil.100/2; (8) Strasbourg, Bibliothèque Municipale MS 222 C.22; (9) Paris, Bibliothèque Nationale n.a.fr.23190 (*Olim Trémoïlle*); (10) Trent, Castel del Buon Consiglio, MS 87. (The Strasbourg MS was destroyed in 1870, but reconstructed by Charles Van den Borren in 1924; Paris, B.N. n.a.fr.23190 (Trémoïlle) is a fragment of which only its index and four motets survive; the *Fauvel* recensions in 21390 are lost.)

Schrade lists the sources and the motets therein separately; for the sources, see: *Polyphonic Music of the Fourteenth Century, Commentary to Volume I*, ed. Leo Schrade, Monaco, Editions de l’Oiseau-Lyre, 1956, 44-45; for his commentary on the motets, see 56-101, and esp. 66-68 and 76-78.

The following lists the nine motets and their eighteen recensions by first word(s) of the motetus, followed by the manuscript(s) number as given above: *Adesto* (1, 2); *In nova fert* (6); *Inter amenitatis* (10); *Ludovice* (= *O Philippe*) (5); *Presidentes in thronis* (1); *Qui secuntur* (5); *Quoniam secta latronum* (1, 2, 4, 7, 8); *Rex beatus* (1, 3, 9); *Ve, qui gregi* (1).
Of these six signs, only the inflection at a (blandus) is present in fr.146, where it is signed with a two-stroke sign; (see b). The inflection at c (il dechoit) is not signed in fr.146, but is present in fr. 571, and because of this Schrade included it as a signed inflection in his edition for PMFC. The inflections d, e, and f are not included in PMFC, and are mentioned only in Schrade’s Commentary, where he calls d and e “sharps,” and f, a “natural sign”, even though they are all three-stroke b-quadrati; (see Fig.III.5 below):

<table>
<thead>
<tr>
<th>Fig.III.5: Schrade’s Notes on the Unusual Sqb of fr.571</th>
</tr>
</thead>
<tbody>
<tr>
<td>a, b</td>
</tr>
<tr>
<td>c</td>
</tr>
<tr>
<td>d</td>
</tr>
<tr>
<td>e</td>
</tr>
<tr>
<td>f</td>
</tr>
<tr>
<td>g</td>
</tr>
</tbody>
</table>

At the beginning of Schrade’s Commentary to Volume I, he mentions the difficulty of expressing medieval music in modern notation:

With regard to the modern transcription of fourteenth-century music, the same problems have been encountered as face any editor of the music of this period, that is, the deficiencies of the modern system of notation. Our system has nothing to express adequately the characteristic combination of modus, tempus, and prolatio. Schrade speaks a specialist’s language when naming the component parts of the rhythmic system he was transcribing. This can be seen in e above, where he identifies the two-note ligature by its Latin name. Yet in the same breath, he calls this sign a “sharp.”

It was common in Schrade’s day to call the square-b [♭] a sharp, and while it is nominally true that both the modern sharp [♯] and the medieval square-b [♭] signal an

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12 The gmi at il dechoit immediately follows blandus, inflects the same pitch, and is part of the same textual-melodic idea; see PMFC vol. 1, p.16, mm.11-12; see also the Commentary to Volume I, 68.
13 Commentary to Volume I, 68, 76-78.
14 Ibid., 6.
ascending half-step inflection, to substitute the former for the latter is to project our modern understanding of the semitone back into a system where both the Pythagorean minor semitone, and intervals audibly smaller than the minor were in use. The wholesale conversion of all medieval accidental signs into the modern sharp was in essence to eliminate all possible indications of microtonality, and to convert a music that may be more strange than we currently appreciate into something more comfortably familiar.

In Chapter VI of this thesis, I examine seven works in which unusual forms of the square-b are employed. The first six of these works employ the three-stroke square-b; the seventh alternately inflects the same pitch, .b., with a three- and a four-stroke square-b. While I posit a connection between the unusual signs and an intent to signal a microtonal interval in all seven of these works, the two Fauvel motets examined in Chapter VI present some of the strongest testimony. Recent research has shown the manuscript as a whole to have an extra-musical background involving political intrigue between the royal families of England and France. The actors and the circumstances in which they found themselves are well known and well documented, and their actions add a layer of meaning to the motets that give new significance to the coincidence of text, inflection, and accidental signs.

Schrade did not know this—nor could he have known this—as he was editing the Roman de Fauvel for PMFC vol. I, and so he would not have seen these signs in the same light that it is now possible to do. He was also in the midst of a formidable task: in addition to the motets from Fauvel, he had to edit those of Philippe de Vitry, as well as the Masses of Tournai, Toulouse, and Barcelona.

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15 At the time Schrade was editing PMFC vol. I, it was believed that fr. 571 was earlier than fr. 146, and that the first of the two motets in fr. 571 must originally have been written for the coronation of Louis X in 1314, and only later changed to Philippe after Louis’ death in 1316. In 1992, Andrew Wathey published an article demonstrating that fr. 571 was copied about a decade later than fr. 146; see “The Marriage of Edward III and the Transmission of French Motets to England” JAMS 45/1 (Spring, 1992):1-29.
I argue in Chapter VI that had the scribe of fr.571 wanted Pythagorean intonation in the two motets in which he signed a three-stroke square-b [²], he would have used the normal two-stroke sign [♭] with which he was clearly familiar, having signed it twelve times in each motet. I argue that there is a difference in meaning between his use of the two signs, namely that the three-stroke sign [²] indicates a microtonal inflection, and that in these two motets this sign is used to highlight certain words in the text in the manner of a sonic gloss. I have already discussed the second of these two motets, *Qui secuuntur / Detractor est / Verbum iniquum* above and in Chapter I; I will return to both in Chapter VI.

For the moment, the conclusion to the first motet, *Ludowice / Servant regem / Rex regum* is presented in Fig.III.6 below, and shows the pitch .bb. inflected by a three-stroke square-b in circumstances under which it is difficult to imagine it being sung fa, especially given the two-stroke square-b signed three notes prior and the Emi in the tenor (see m.58). The .bb. in the cantus is also both the highest pitch in the motet, and is its only occurrence. What’s more, at no time prior to this point is any .b. in this motet signed fa.

Just as important to note is that the recipient of fr. 571 was the future Edward III of England, and that the passage in which this sign appears warns that “a king is here today and gone tomorrow.” It ends by reminding its reader to “live justly and holily.”

Fr. 571 was prepared to mark the signing of the contract to marry Edward to Philippa of Hainaut, thereby wedding the royal families of England and France. Because the marriage took place on French soil, and because fr. 571 was compiled in Hainaut, it is likely that the inclusion of these two motets was the work of the French side to the marriage, and not the English. This gives the unusual inflection in *Ludowice / Servant / Rex* an extra-musical significance: namely
that it may have been meant as a sign to the young Edward to keep the peace, or to face the consequences of war against his in-laws.

More evidence that the ending of this motet had extra-musical significance is the fact that in the only prior recension—that of fr. 146—the text beginning *Rex Hodie est*, and ending *iuste vivat & sancte igitur* appears beneath blank staves (see Fig.III.7b below). In fr. 146, this was likely a stern admonition from the within the French royal family to the young king Phillip V to govern with great care, and to keep in mind the premature deaths of his father Philip IV, and his older brother, Louis X.¹⁶

But its inclusion in fr. 571 was almost surely meant, not as an admonition, but as a not-so-subtle warning.

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¹⁶ Philip IV died on 29 November, 1314 at the age of 46; the oldest of his three sons, Louis of Navarre, age 25, became Louis X that same day. He died on 5 June 1316, six months shy of his 27th birthday, leaving behind a daughter Joan, and an infant son John, who died within days of birth. During the conflict that ensued over whether a woman—Louis’s daughter—could ascend to the throne of France, Philip of Poitiers (Philip IV’s second son) occupied the royal palace in January 1317 and had himself crowned Philip V. The apparent warnings embedded in fr. 146 are understood to be admonitions to Philip V to govern with care, to be worthy of the crown, and to protect France from those who would despoil it. The background to the crisis that followed the death of Philip IV is addressed in … . Of particular note is that Andrew Wathey argues that Edward III’s father, Edward II; was viewed as a prime candidate for those who would trample “the fair garden of France” given the chance; see … .
None of this was known when Schrade was engaged in editing PMFC vol. I, and therefore there is no mention of it in his Commentary. His edition of the concluding five measures of the motet is a combination of fr. 146 and fr. 571, signed with the sharp.

III.4 — F. Alberto Gallo

Alberto Gallo’s research interests put him on what could be described as a collision course with unusual accidental signs. Between 1966 and 1974, Gallo published research on: a) the theorist Guido frater; b) the fragment I-Vmg, which preserves two Venetian ceremonial motets from the first half of the fourteenth century; and c) the anonymous fourteenth-century Italian motet Ave regina / Mater innocencie / Ite missa est “Joseph.”

The source material for all three studies is unique: Guido frater’s Ars musice mensurate is found only in the manuscript E-Sc 5.2.25; the two Venetian motets Ave corpus sanctum and Cetus inseraphici only in I-Vmg; and the motet Ave regina / Mater innocencie / Ite missa est only in GB-Ob canon. class. lat. 112. Yet these sources are unique in another sense: all three

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illustrate Marchetto’s *musica colorata* sign, and the motets *Ave corpus sanctum* and *Ave regina / Ite missa est* use it to inflect progressions in the music.

I have already illustrated, in Chapter Two, Fig.II.1, the signs from *Ars musice mensurata*; below is the same image again, this time preceded by Gallo’s transcription from his 1966 edition:

| Fig.III.8: Gallo’s Transcription of the Accidental Signs from *Ars musice mensurata* |
|chr. | chr. | enh. | enh. |
|enh. | enh. | chr. | chr? |
|chr. | enh? | enh. |

The order of the signs in Gallo’s transcription does not exactly follow that of the image: whereas Gallo puts the two *semitonii cromatici* first and the two *semitonii enarmonici* second, the image shows that he has reversed their order: Guido (or the scribe of ms. 5.2.25, if they are not the same) puts the two *enarmonici* first, followed by two *cromatici*. Notable also is that while Guido adapts Marchetto’s nomenclature for the Pythagorean minor—i.e., he turns Marchetto’s name for this semitone into the name of the sign that signals it—he uses a different nomenclature for the sign Marchetto calls *musica colorata*. Nevertheless, the disposition of the vertical strokes enables us to say that the first two signs in the image are *b-quadrati* (i.e., their strokes are disposed left-up, right-down) while the second two are the sign Marchetto uses in *Lucidarium* to signal the microtonal *diesis* (i.e., left-down, right-up). Moreover, Guido enumerates the necessity to reverse the vertical strokes of the *semitonium cromaticum* in language that is consistent with that which Marchetto uses in *Pomerium*.\(^{18}\) Finally, Gallo’s edition of *Ars musice mensurata* does

\(^{18}\) Marchetto: “It is necessary to draw longer strokes in *musica colorata* than in the *b-quadrum*. And the greatest such lengthening ought to be made to this sign upwards and away from the right part, the side in which perfection is signified. [Sufficit enim ultimiores protractions facere in ipso quam in .b. quadro. Et maxime talis protractio debet fieri in tali signo in sursum et a parte dextra, in qua perfectio innuitur.]” Vecchi, *Pomerium*, 73.
not include any commentary on the treatise; if Gallo recognized that Guido’s sign for the semitonii cromaticii was also Marchetto’s musica colorata sign, he does not say so.

Three years later, in 1969, Gallo published a study, facsimile, and transcription of a hitherto unknown fragment that he had discovered in a Venetian monastery. This fragment, two folios from what was once a much larger manuscript, transmits two motets, only the first of which is complete. This motet, Ave corpus sanctum, commemorates the translation of the relics of St. Stephen to Venice. Its text names Francesco Dandolo, who reigned as Doge from 1329 to 1339, and suggests that the motet was written during that span of years.

Gallo’s facsimile of the fragment is of very poor quality, and the accidental signs therein are extremely difficult to discern. Fortunately, Gallo both describes and illustrates them in his commentary (see Fig.III.9 below), where it is clear that a sign identical in design to Marchetto’s musica colorata was used in Ave corpus sanctum.

Though Gallo uses Guido frater’s name for this sign, rather than Marchetto’s, he does correctly distinguish the signs according to the disposition of the vertical strokes. His commentary about their use, moreover is enlightening: he indicates the square-b [□] is used to

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Guido frater: “When the line rising to the left exceeds that which stands to the right, it is the sign of the enharmonic semitone … when the rising line which is drawn to the right exceeds that to the left, it is the sign of the chromatic semitone. [Quando autem tractum sive filum in sursum a sinistris trahitur excedens filum quod stat a dextris signum semitonii enarmonici est … Quando vero filum in sursum trahitur a dextris excedens quod est a sinistris, signum semitonii cromatici est.]” Gallo, Mensurabilis Musicae Tractatuli: Guidonis Fratris Ars musice mensurate, 28.
ensure perfect consonance—or what Anonymous II called *causa necessitatis*—while the *cromaticum* (♯) is used *causa pulchritudinis*, as in a final cadence.

When this motet was published seven years later in *Italian Sacred Music* (PMFC xii, no.38), the critical notes for *Ave corpus sanctum* included a subsection entitled “*Accidentals*,” (see Fig.III.10a below), where anyone who was familiar with Gallo’s earlier discussion of the accidentals signs of *Ave corpus sanctum* would expect to find a reprise of that information. Instead, one finds a comment that, in light of what has been omitted, reads like a non sequitur. As was, and still is the case, the PMFC edition shows that all upwards-inflecting signs, including the three unusual signs illustrated below (Fig.III.10b) have been transcribed with the modern sharp.

![Fig.III.10: Critical Notes to PMFC xii, no.38; Images from the Manuscript](image)

In 1973, news surfaced in the Vatican newspaper *L’Osservatore Romano* that pay records for a Marchettus had been found in the archives of the Cathedral of Padua, and that these confirmed Marchetto’s tenure there as Master of the Boys during 1305–06. Gallo subsequently traveled to Padua to see these documents, and in early 1974, published an article in *Archiv für Musikwissenschaft* in which he: a) associated the start of Marchetto’s employment at the Cathedral in the spring of 1305 with the dedication of the Scrovegni Chapel in March of that
same year; and b) suggested that the motet *Ave regina* / *Mater innocencie* / *Ite missa est* might have been written by Marchetto to be performed at the dedication.

While there is no evidence to support either supposition, Gallo’s examination of the motet led to his discovery of an acrostic in the duplum that spelled MARCVM PADVANVM. On the basis of this acrostic, Gallo attributed *Ave regina* / *Mater innocencie* / *Ite missa est* to Marchetto, and as he had done five years earlier for *Ave corpus sanctum*, published a full set of photographs of the motet. An image of the first accidental sign in the triplum, scanned from the photographs in his 1974 *AfM* article, is shown in Fig.III.11a below, with a recent high-density color digital image of this same accidental shown in (d). An excerpt from the edition in PMFC xii showing this accidental in context appears in (b).

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The excerpt in (c) is taken from Gallo’s critical notes to *Ave regina* / *Mater innocencie* / *Ite missa est* “Joseph” from PMFC xii and corresponds to the same place in the critical notes for *Ave corpus sanctum* as shown in Fig.III.10a above. A comparison of these two sets of notes with those from Gallo’s 1969 monograph on the fragment I-Vmg (shown in Fig.III.9 above) shows a retrograde progression moving from considerable detail with regard to the accidental sign in the earlier publication—where the *b*-quadrum chromaticum and *b*-quadrum enarmonicum are both
illustrated and described—to virtually no information regarding the signs in the latter publication.

Thus, while Gallo had evidence at hand of the use of unusual accidental signs to inflect microtonal intervals in two early fourteenth-century Italian motets, he seems to have backed away from explicitly saying so, and from pursuing the issue further.

The result is that no one who knows either motet primarily or solely from the edition in PMFC is aware that certain of the original accidental signs signaled a microtone, rather than a semitone. In other words, because modern notation demands that all upwards-inflecting signs be transcribed with the sharp [#], an important element of the original music was lost.
Chapter Four

Marchitto, Pomerium 4, and falsa musica

IV.1 — A New Translation of Pomerium 4

The fourth treatise of Pomerium (hereafter, Pomerium 4) is divided into a prologue announcing an investigation of that sign “commonly called falsa musica,” and four chapters of detail. The first chapter (4.13) identifies the musical necessity for this sign; the second (4.14) explains why that sign should be called musica colorata as opposed to falsa musica; the third (4.15) explains why this treatise is the fourth of four—that is, why it is preceded by the treatises on stems, rests, and dots. In Chapter Four, the longest of the four, we learn that the unnamed sign in Lucidarium [_flags] is musica colorata, and we are finally shown falsa musica [_flags], which turns out to represent a square-b that has been bisected diagonally. Marchetto’s overarching purpose in this treatise is to convince the reader to abandon falsa musica in favor of musica colorata.

Chapter Four is his disproof of the falsa musicisti, in which he attempts to show that their sign is inaccurate and badly named, that its physical form is based upon misconception, and that it should be retired.

What Marchetto does not say at any point in this treatise is that those who use falsa musica are an old guard who do not embrace the direct chromaticism of the new style, and that this is why their sign must go. This is partly why this treatise is so difficult to make sense of: Marchetto is arguing against the falsa musicisti as if they are equals, and trying to obscure from the reader the fact that they are not. Marchetto is therefore addressing this treatise, not to the
falsa musicisti, as I call these musicians, but to those readers whose opinions are still able to be swayed.

A further, even greater problem for the twenty-first century reader of Pomerium 4 is that Marchetto’s thirteenth-century audience already knew the background to this dispute, and therefore Marchetto does not need to reiterate it. For us, however, this is a problem.

* * * * *

The translation is below arranged in three columns as follows: the left hand column is the Latin text as it appears in Vecchi’s critical edition of the Pomerium; the middle column is my literal translation of Marchetto’s Latin; the right hand column is my commentary. As mentioned above, the numbering of Chapters and Lines correspond to Vecchi’s edition, thus: 4.14 indicates Treatise 4, Chapter 14; 4.14.1 indicates Treatise 4, Chapter 14, line 1, etc. (The Treatise begins with an introductory Chapter, or Prologue numbered 13.)

**Pomerium LIBER PRIMUS, TRACTATUS QUARTUS**

4.13.1 Sequitur videre de quodam signo quod a vulgo falsa musica nominatur.

**Commentary**

Marchetto uses the same expression (i.e., quod a vulgo falsa musica nominatur) in Lucidarium 8.1.4 and 8.1.17. His use of it in the title of Pom.4 signals the connection of this Tract with the unfinished business of Luc.8.1.

4.13.2 De quo videndo hoc ordine procedemus:

**Commentary**

Concerning [this sign] we will proceed as follows:

4.13.3 primo, enim dicemus quae necessitas fuit tale signum introducere in musica mensurata;

**Commentary**

Marchetto illustrates two signs (\[\text{\textsc{f}}\&\text{\textsc{p}}\]) in this Tract (cf. 4.17.2 and 4.17.15), but always uses the singular “this sign” when referring to them, instead of their names.

4.13.4 secundo, ex hoc concludemus quomodo proprio nomine debeat nominari;

**Commentary**

Here he states his intent to rename falsa musica.

...
tertio, ostendemus quod immediate post proprietates et pontellum tractandum est de eo;

thirdly, we will show that [this discussion] follows immediately after the [vertical strokes] and the dot;

"Proprietates," as Marchetto uses it in the first treatise of Book I, refers to the vertical lines that ascend from notes, and which Ralph Renner translates as "stems." But because "stem" is never, to my knowledge, used in conjunction with the ascending and descending lines of the square-b, I translate it [vertical strokes].

And here he states his intent to redraw falsa musica.

CAPITULUM PRIMUM

WHAT WAS THE NECESSITY THAT A SIGN SUCH AS THIS SHOULD HAVE BEEN INTRODUCED INTO MEASURED MUSIC

Quantum ad primum, dicimus quod necessarium fuit hoc signum introducere in musica mensurata pro cognoscendis dissonantiae quae occurrunt in cantibus mensuratis.

Concerning the wherefore, why, and how many of these dissonances there are, and also by what measure they should hold themselves before consonances, in our certain work of plainsong has this been made manifest.

Marchetto refers the reader back to Lucidarium for more information; he does so again in line 14.7, and in line 4.17.19.

ipsae sint, ac etiam quomodo se ante consonantias habeant, in quodam nostro opere planae musicae est ostensum.

We are not able to obtain these dissonances by means of the other two signs (namely b-quadratum and b-rotundum), which signs are able to be placed in any song whether measured or plain.

Marchetto affirms the Pythagorean significance of the round- and square-b, and contrasts it to "this sign [hoc autem signum]" which signals a non-Pythagorean division of the tone.

Sed hoc esse non potest nisi per toni divisionem in cromaticum et diesim, vel e converso.

For it is necessary that these dissonances dispose themselves in the following manner: that from the consonances towards which they strive they must be standing apart by a smaller distance.

But this cannot possibly be except by division of the tone into the chromatic semitone and diesis or vice versa.


Regarding all these divisions, the why, by what measure, and where they should be made is more clearly shown in our aforementioned work of plainsong.

And this is the first.

[4.15] QUOMODO TALE SIGNUM DEBEAT PROPRIO NOMINE NOMINARI

[4.15.1] Quantum ad secundum, dicimus quod nomen debet esse consequens rei. Et hoc de primo.

[4.15.2] Cum igitur tale signum sit repertum in musica ad pulchriores consonantias referiendas et faciendas, et falsum, in quantum falsum semper sumatur in mala parte polius quam in bona (quod enim falsum est de se, numquam bonum est), idio salva reverentia aliorum (3) dicimus quod magis deberet et proprius nominari musica colorata quam falsa, per quod falsitatis nomen attribuimus eidem.

Because this sign is found in music for the purpose of finding and making more beautiful consonances, and falsehood, in as much as falsehood is always better understood as a bad thing rather than a good thing, (since falsehood of itself is never a good thing), with all due respect to others, therefore, we say that more properly it ought to be called musica colorata (4) than falsa [musica], since by the name of falsity the same [qualities] do we join to [it].

And this is the second.

[4.16] QUOMODO POST PROPRIETATES ET PONTELLUM SIT TRACTANDUM DE IPSO SIGNO

Marchetto moves to change the name of this sign from falsa musica to musica colorata (as proposed above in 13.4). As he does so, he extends an olive branch ("ideo salva reverentia aliorum [with all due respect ...]") to the falsa musicisti. This suggests that: a) the name falsa musica and the sign (illustrated in 4.17.2) are theirs; and that b) they are opposed to changing either.

And this is the third.

[4.16.1] Quantum ad tertium, dicimus quod per proprietates et pontellum tractatum est de accidentibus ad ipsam musicam pertinentibus, et quia in musica fiunt interdum coloros ad pulchritudinem consonantiarum, sicut in grammatica fiunt colores rhetorici ad pulchritudinem sententiarum, ideo statim post proprietates et pontellum debuit etiam tractari de ipsa musica colorata.

This very brief chapter may be the work of Marchetto’s editor, Syphans; it explains why accidental signs come fourth in the discussion of “the accessories of music,” (i.e., after stems, rests and dots), and reads as if it is a non-sequitur. Yet its text is a remarkable synthesis of musical aesthetics and rhetoric, and clearly indicates that for Marchetto, inflection and text are interconnected.
Capitulum Quartum

In what manner this sign ought to be signed in music

[IV. ] We say that the opinion of certain others has been that, since by $b$-quadratum we ascend above $b$-rotundum (in the same space or on the same line) three parts of the divisible tone, which three parts [comprise] a diatonic semitone, by this sign ($c$), we ascend by one [more] part of the same tone, which is a diesis, above this $b$-quadratum (in the same space or on the same line), by dividing the enharmonic semitone for the sake of receiving the colors of the consonances.

Accordingly, they say that because there is such an effect in [this] sign that it adds to the $b$-quadratum one part of the enharmonic semitone, which part is called diesis; and wishing to reduce this to geometry, they say it ought to be formed as half of a $b$-quadratum, as here: $\flat$.

And their reason is that because $b$-quadratum always [indicates] an enharmonic semitone immediately above, and “this sign,” by ascending, divides that enharmonic semitone, they conclude this figure ought to be triangular, in order [to halve] the $b$-quadratum, which is quadrangular.

But neither with respect to music nor geometry do they argue correctly.

And this we show through their words alone, by showing that their words say our proposition, and the opposite of theirs.

First we speak geometrically: it is certain that the pentagon adds above the quadrangle one angle;

this then is a good conclusion: the pentagon does not add above the quadrangle as many angles as has the quadrangle, but only one angle;

Marchetto is saying here that the falsa musicisti advocate an equal five-fold division of the tone. It’s possible that what he means is that, post Lucidarium, all musicians accept—or should accept—the five-fold division as fact. That Marchetto names diatonicum, enharmonicum, and diesis—but not chroma—however, suggests the falsa musicisti do not agree; (see also 4.17.3 and 4.17.11 below and I.5.3.1 of the analysis that follows).

This $\flat$ must be the sign that Marchetto proposes in the Introduction to rename and to redraw. He also tells us in this line and in the line below that it is a square-b that has been bisected, and thus its triangular shape (i.e., half the square-b) represents diesis. This sign must therefore be falsa musica.

It’s puzzling, given that diatonicum "absorbs" the other diesis of the subdivided enharmonic semitone and becomes chroma, that Marchetto does not name it here.

This is Marchetto’s "linguistic reversal."

Here, Marchetto sets up his proof (lines 4.17.6–8) that the triangular shape of falsa musica is inaccurate.
[4.17.8] ergo debet figurari pro mediate
dquadragoni

[4.17.9] Certum est enim quod ista
deduction falsa est, immo debet dici quod
dpentagonum debet figurari cum unum
angle plus quam habeat quadratus.

[4.17.10] Recte ergo in musica ipsi
concluent dictam conclusionem
dgeometrica dicentes: 1. quadratum facit
ascendere de tono divisibilis tres partes,
primo quae sunt semitonum diatonicum; post has, duas, quae sunt
semitonum enarmonicum.

[4.17.11] Tale autem signum ultra hoc facit
ascendere unam partem plus ipsius toni
quam faciat. 2. quadratum, dividendo
dipsam semitonum enarmonicum pro
medietate.

[4.17.12] Ergo, dicunt ipsi, debet figurari pro
medietate. 1. quadratum; cum ipsi potius
dembernt dicere: debet figurari cum
ulteriori perfectione quam. 2. quadratum,
eo quod ascensum addit supra ipsum et
divisionem.

[4.17.13] Ergo dicendo et concludendo et
secundum verba eorum, dicamus quod
ratione praedicta tale signum) debet
figurari sicut primo. 1. quadratum et cum
ulteriori perfectione, eo quod ascensum
et divisionem addit supra ipsum.

[4.17.14] Sed tali perfectio non innuitur per
multiplicationem angulorum (puta
faciendo pentagonum vel exagonum),
cum de ipsis nihil ad musicae, sed
solum ad geometriam.

[4.17.15] Sed quia de proprietatibus
dictum est quod protractio ipsarum
dicit perfectionem secundum plus
vel minus; ideo fiat tale signum
cum quadam proprietate supra
1. quadratum, ut hic:

[4.17.16] Sufficit enim ultimiores
protractiones facere in ipso quam in
1. quadrato.

[But that] it should therefore be drawn
as half a quadrangle is certainly a false
deduction;

Rather, it should be said that a
pentagon should be drawn with one
more angle than the quadrangle has.

They therefore argue accurately by
expressing the following geometric
conclusion about music: the
b-quadratum divides the ascending
tone first into three parts, which form a
diatonic semitone; after these, two,
which form an enharmonic semitone.

This sign, however, causes an ascent
beyond this [by] one part more of
the tone than b-quadratum is able to cause,
by dividing this enharmonic semitone
in half.

Therefore they say [this sign] ought to
be drawn as half of the b-quadratum,
when they would do better to say: it
ought to be shaped with greater
perfection than the b-quadratum, and
for the reason that it adds, for the
purpose of ascending above
b-quadratum, [another] division [of the
tone].

Therefore by speaking, reasoning with,
and following their words, we say that,
by the aforementioned reason, this sign
ought to be shaped first like the
b-quadratum but with more perfection,
and for the reason that, for the purpose
of ascending, it adds [another] division
[of the tone] above b-quadratum.

But such perfection is not signaled by
the multiplication of angles (for
instance, by making a pentagon or
hexagon) since of these [there is] no
thing of music, but only geometry.

On the contrary, because it has
been said about vertical strokes that
their lengthening—to a
greater or lesser [degree]—
expresses perfection; let,
therefore, this sign be fashioned with
a certain "stroke" above
b-quadratum, as here:

It is necessary to draw longer strokes in
this sign than in the b-quadratum.

Marchetto's point here is that since
the pentagon cannot be divided
geometrically into four and one parts,
it is wrong to express chroma and
diesis with a geometric shape.

Marchetto again points to chroma here
but does not name it. This seems to
indicate that the falsa musicisti do not
recognize the interval Marchetto calls
chroma, (despite what he says in
4.17.1). The previous line (4.17.11) is the last
time Marchetto means falsa musica
when he says "this sign"; starting with
the following line, "this sign" refers to
the sign illustrated at the end of
4.17.15.

Marchetto finally illustrates the
unnamed sign used in Lucidarium to
signal chroma and diesis. Still, he does
not name it.

As with the ambiguous use of "this
sign", the absence of names for the
two signs is a source of confusion.
And the greatest such lengthening ought to be made to this sign upwards and away from the right part, the side in which perfection is signified, so that with respect to the vertical strokes, higher is indicated, and upwards, because [this is] more formal; the higher [the strokes], the more formal they are in comparison to the lower, and thus, the more active.

For water is more formal than earth, and air (more formal than) water, and fire (more formal than) air, because they are [each located] in a higher place; for it is [the purpose] of forms, like places, to contain.

Concerning which places this sign should be put, the division of the tone, [and] where it is made, [all these are] more fully shown in our work on plainsong.

A second instruction to return, if needed, to Lucidarium, where, when the reader sees this sign: ...
explanations and justifications constitute the bulk of *Pomerium* 4, and in particular, its fourth chapter (lines 4.17.1-20).

The established practice is represented by an otherwise unnamed collective of musicians who use a sign called *falsa musica*. For the sake of convenience, I call them the *falsa musicisti*. It’s possible that they are the same persons whom Marchetto disapprovingly refers to in *Lucidarium* 8.1.17 as those who write the square-b [ Authorities interpret this as “4” ] and the third sign [ Authorities interpret this as “3” ] “in the same manner.” If so, Marchetto addresses them directly in *Pomerium* 4.15.2, and it is noteworthy that in the process of explaining his reasons for the change of name he extends an olive branch to them: “with all due respect to others”:

> Because this sign is found in music for the purpose of finding and making more beautiful consonances, and because falsehood, in as much as falsehood is always better understood as a bad thing rather than a good thing, (since falsehood of itself is never a good thing), with all due respect to others, we therefore say that more properly it ought to be called *musica colorata* than *falsa [musica]*, since by the name of falsity the same qualities do we join to it.” (emphasis added)

Marchetto is evidently concerned about calling this sign “false,” but his fundamental—and unstated—concern is that it does not express the five-fold division of the tone that he demonstrates in *Lucidarium* 2.4, and which underpins his elucidation of the four semitones, and especially *chroma* and *diesis* in *Lucidarium* 2.6-2.8 Thus he is proposing, not merely a change of signs, but a change to the underlying theory represented by the “third sign.” It is for this reason that I suspect the two parties were already no longer in communication by the time Marchetto made his peace offering.

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1 Throughout *Pomerium* 4, Marchetto uses the expression “third sign” when in fact, the round- and the square-b, plus *falsa musica* and *musica colorata* make four signs, not three. This appears to be his way of implying that the only three signs are the round- and square-b, and *musica colorata*. It may be that, before *Lucidarium* and *Pomerium*, the three signs were the round- and square-b, plus *falsa musica*. Following the advent of chromatic motion (i.e., permutation), *musica colorata* has become the “third sign,” and *falsa musica* has become obsolete.
Chapter Four of *Pomerium* 4 explains the problem and presents Marchetto’s solutions. It begins with his explanation of how the *falsa musicisti* see things:

4.17.1 We say that the opinion of certain others has been that, since by *b-quadratum* we ascend above a *b-rotundum* (in the same space or on the same line) three parts of the divisible tone, which three parts [comprise] a diatonic semitone, by this sign, we ascend by one more part of the same tone, which is a diesis, above this *b-quadratum* (in the same space or on the same line), by dividing the enharmonic semitone for the sake of receiving the colors of the consonances. 4.17.2 Accordingly, they say that because … this sign … adds to the *b-quadratum* one part of the enharmonic semitone, which part is called a diesis; they, wishing to reduce this to geometry, say it ought to be formed as half of a *b-quadratum*, as here: \( \text{\textcopyright} \). 4.17.3 And their reason is that because *b-quadratum* always [indicates] an enharmonic semitone immediately above, and this sign, by ascending, divides that enharmonic semitone, they conclude this sign ought to be triangular, in order [to halve] the *b-quadratum*, which is quadrangular.²

This is followed by Marchetto’s proposal to show that the *falsa musicisti* are not very adept, theoretically speaking:

4.17.5 And this we show through their words alone, by showing that their words say our proposition, and the opposite of theirs. 4.17.6 First we speak geometrically: it is certain that the pentagon adds above the quadrangle one angle; 4.17.7 this then is a good conclusion: the pentagon does not [exceed] the quadrangle [by] as many angles as has the quadrangle, but by only one angle; 4.17.8 [But that] it should therefore be drawn as half a quadrangle is certainly a false deduction; 4.17.9 rather, it should be said that a pentagon should be drawn with one more angle than the quadrangle has.

The logical problems in his proof notwithstanding, when Marchetto arrives at the point where he must demonstrate the promised “linguistic reversal,” what he expresses is not a matter of fact, but opinion:

² Marchetto opens this chapter with the surprising observation that the *falsa musicisti* also advocate a five-fold equal division of the tone. Nevertheless, their sign and the theory behind it must be older than that which Marchetto advocates, and there is every reason to believe they were trained in—and still adhered to—*Ars antiqua* theory, including the *recta* gamut; (cf especially Figs. 7-8 in the Technical Forward with Fig. 9 and the text that explains them).

It may be possible to interpret Marchetto’s statement as indicating that the *falsa musicisti* had the five-fold division before Marchetto, but it is more likely that Marchetto says this to obscure the fundamental differences between their practice and his own.

Still, it is also possible that Marchetto believes that the five-fold division had *always* existed, and that *chroma* was merely the reverse of the coin with *diesis* on its obverse.
They therefore argue accurately by expressing the following geometric conclusion about music: the \textit{b-quadratum} divides the ascending tone first into three parts, which form a \textit{diatonic} semitone; after these, two, which form an \textit{enharmonic} semitone.

This sign, however, causes an ascent beyond this by one part more of the tone than \textit{b-quadratum} is able to cause, by dividing this \textit{enharmonic} semitone in half.

Therefore they say \textbf{it ought to be drawn} as half of the \textit{b-quadratum}, when they would do better to say: it ought to be shaped with greater perfection than the \textit{b-quadratum}, and for the reason that it adds, for the purpose of ascending above \textit{b-quadratum}, another division of the tone.” (emphasis added)

Nevertheless, Marchetto carries on as if his point has been proven:

Therefore by speaking, reasoning with, and following their words, we say that, by the aforementioned reason, this sign ought to be shaped first like the \textit{b-quadratum} but with more perfection, and for the reason that, for the purpose of ascending, it adds another division [of the tone] above \textit{b-quadratum}.”

It is at the conjunction of lines 4.17.13-14 that Marchetto begins to address \textit{musica colorata}, while line 4.17.13 is his final reference to \textit{falsa musica}. On the other side of this line are two lines (4.17.14-15) justifying his replacement sign and culminating in the illustration of \textit{musica colorata} at the end of 4.17.15.

But such perfection is not signaled by the multiplication of angles (for instance, by making a pentagon or hexagon) since of these there is nothing of music, but only geometry. Let, therefore, this sign be fashioned with a certain “stroke” above \textit{b-quadratum}, as here: $\frac{1}{2}$.

Once Marchetto has made his point and finished his demonstration, his pace accelerates:

It is necessary to draw longer strokes in this sign than in the \textit{b-quadratum}. And the greatest such lengthening ought to be made to this sign upwards and away from the right part, the side in which perfection is signified, so that with respect to the vertical strokes, higher is indicated, and upwards, because this is more formal; the higher the “strokes,” the more formal they are in comparison to the lower, and thus, the more active. For water is more formal than earth, and air (more formal than) water, and fire (more formal than) air, because they are each located in a higher place; for it is the purpose of forms, like places, to contain.
There remains just one last detail, which is an instruction to the reader to refer back to the *Lucidarium* if further detail or clarification is needed:

4.17.19 Concerning which places this sign should be put, the division of the tone, and where it is made, all these are more fully shown in our work on plainsong.

Having said this, Marchetto is done, save for a final reminder that from this point forward, the name of the third sign is *musica colorata*.

4.17.20 And concerning *musica colorata*, may this suffice.

**IV.3 — Interpretation**

On its surface, *Pomerium 4* is a comparison of two accidental signs presented as if they serve the same purpose and the same music. In fact, the first sign, *falsa musica*, is older, and the music it serves is that of an older tradition, one in which the proscription of chromatic motion was still observed. The second of these two signs, and the music it was designed to serve, are contemporary. In that both signs signal *diesis*, they are similar. But given that *musica colorata* is meant to simultaneously signal a second interval that *falsa musica* does not, they are different: this second interval is the non-diatonic chromatic semitone Marchetto calls *chroma*, and which the inception of permutation made a necessary part of the musical practice of the day.\(^3\)

Marchetto states at the beginning of *Pomerium 4.17* that he and the *falsa musicisti* share the same theory and practice, but a close reading of this chapter shows otherwise: whereas the use of direct chromatic motion is prominent in the new style, it was absent in the old. It was the inception of permutation, which is in essence a mutation preceded by a chromatic progression, that led to the five-fold division of the tone, and thus to the semitones *chroma* and *diesis*. The design of *musica colorata* is meant to symbolize both these semitones.

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\(^3\) The two intervals, *chroma* and *diesis*, are sequential; it is the sign that signals them and the message it transmits, that is simultaneous.
Marchetto’s problem with falsa musica, therefore is that it represents diesis only. Worse yet is that it seems to represent the quarter-tone (i.e., the enharmonic diesis) rather than Marchetto’s one-fifth tone diesis. At least, this appears to be the point of the pentagon-to-quadrangle analogy in lines 4.17.6-8. If so, then what this indicates is that his assertion in line 4.17.1—that the falsa musicisti also advocate an equal five-fold division of the tone—cannot be accurate, at least, not from the perspective of the falsa musicisti. This is why I indicate above that it was likely they had stopped debating this point with Marchetto long before Pomerium 4, and why I view his gesture of the olive branch as disingenuous: Marchetto was not writing this treatise for the benefit of the falsa musicisti, but for a new generation of singers whose training was still in progress, and whose opinions were still malleable.

Thus, what Marchetto reveals is that the old tradition was still in use, and perhaps still being taught, as he was advocating for and theorizing about the new style, and it is against this backdrop that Pomerium 4 needs to be read.

* * * *

The fundamental problem in trying to demonstrate that musica colorata is superior to falsa musica is that the two signs have different bases. Marchetto says the shape of falsa musica is the result of a geometric reduction and therefore inaccurate, but his proof—that it is impossible to subdivide the pentagon—is based on his theory that the tone is divisible into five parts, and that the five angles of the pentagon are a good analog for this.

The basis of falsa musica, however, is not the tone, but the minor semitone. Given that the square-b [♭] had long signaled this interval, the use of a triangular sign to signal half of it (i.e., diesis) is completely understandable. The apparent illogic of Marchetto’s geometric proof is due to the fact that he is comparing two processes that are fundamentally different. The
pentagon with its five angles may have been a good analog for the five *dieses* of his division of the tone, but the quadrangle did not represent four *dieses* to the *falsa musicisti*, who clearly perceived it as two. The problem, therefore, is that Marchetto is comparing apples to oranges.

Marchetto seems to have gone out of his way to hide this fact. The treatise is written as if the reader has never seen either sign. He does not name the signs where they are illustrated, but separates their names and their illustrations by hundreds of words. Neither does he name them in discussion, but always refers to the sign in question as “this sign.” And while this isn’t a problem at first, when only *falsa musica* is being discussed, it becomes a problem once *musica colorata* is illustrated.

There is also the issue of Marchetto’s astonishing claim in line 4.17.5 that he will somehow take the proposition of the *falsa musicisti* and make it argue his point and contra theirs. The fact that he cannot accomplish this when the proof comes due (lines 4.17.10-11) seems to get lost in the process of unveiling *musica colorata* in line 4.17.15. And it is probably not a coincidence that these are the same lines where “this sign” stops referring to *falsa musica*, and starts to refer to *musica colorata*.

A careful reader might immediately understand that by line 4.17.13, “this sign” no longer refers to *falsa musica*, but others might put aside their sense of confusion and continue to read on, in anticipation of what’s about to come. What Marchetto delivers is the new sign, plus a philosophical justification for its design, and a reference back to *Lucidarium*, should the reader so require. And as the reader considers whether this is perhaps a good idea, Marchetto names this sign [¶] in the last line as if in passing: “4.17.20 And concerning *musica colorata*, may this suffice.”

* * * * *
IV.4 — The “Loop”

Because I had earlier puzzled over the question as to why Marchetto does not name this sign [♯] in *Lucidarium*, I decided to do what he suggests in the penultimate line of *Pomerium* 4 and return to *Lucidarium*.

What I discovered, when I tallied how many times Marchetto names one of the four semitones in the text of *Lucidarium* 2.5-2.8, 5.6, and 8.1, versus how many times he names this sign [♯], is the following: by *Lucidarium* 8.1.20, *diesis* has been named 32 times; *chroma*, 17; *diatonicum*, 14; and *enharmonicum*, 13 times. The combined number of times the four semitones are named is 76.

Across the same span of text, in which this sign [♯] is illustrated twenty-four times, the total number of times Marchetto names it is zero.

There is, of course, one other sign named in *Lucidarium*—though not in conjunction with any illustration—that may perhaps be the name of this sign [♯]: that name is *falsa musica*.

This is when I began to perceive that there was some structure connecting

*Lucidarium* 8.1 to *Pomerium* 4 that had not been detected before.

This structure, which I came to call the “Loop” on account of its circular form, starts with the absence of a name for [♯] in *Lucidarium* 2.6. The discussion of that sign “commonly called *falsa musica*,” left unfinished at the end of *Lucidarium* 8.1, is resumed in *Pomerium* 4. There the reader learns that this sign [♯] is flawed; that it should be replaced by this sign [♯]; if questions remain, that the answers may be found in *Lucidarium*.

What the reader will find, if he does as suggested, is that he will at last have a name (*musica colorata*) for this sign [♯], a sign [♯] for this name: *falsa musica*; and answers as to what Marchetto is talking about at the end of *Lucidarium* 8.1.
IV.5 — Conclusion

With what must have required a considerable degree of planning, Marchetto put together a plan to replace an earlier “third sign” with his more up-to-date accidental. What’s more, his plan seems to have worked—or at least, to have worked in Italy, where falsa musica is almost entirely absent from the sources. Just as remarkable is that Marchetto understood that human beings have an unconscious mind, and he recognized how to use this insight to his advantage. By withholding the name of $\ particularly$ throughout Lucidarium; by naming it in the second chapter of Pomerium 4 but not illustrating it until the fourth (albeit still without its name); and by finally naming it again in the last line of Pomerium 4 before sending the reader back to Lucidarium for that delayed moment of recognition, Marchetto shows a keen awareness of the power of suggestion.

Secondly, he must have understood that the falsa musicisti were not about to change. His intent seems to have been to influence the next generation of singers, and any others interested in the new chromatic music.

Third, this episode, heretofore unknown and undetected, gives us a rare window into events in the handful of years just prior to the compilation of Lucidarium and Pomerium, during which there were forces at work that led to the creation of an accidental sign whose express purpose was to signal the enharmonic diesis. This accidental $\ ([ \ \Rightarrow = \ ] \ )$, commonly known as falsa musica, replaced an earlier compound sign $[\text{sqb+rd} ]$ first seen in the mid-thirteenth-century recension of Flos de spina in Pluteus 29.1, and which was evidently still in use when the exemplar for the fr.571 recension of Qui secuuntur / Detractor est / Verbum iniquum was made, c.1308-1315. The revelation of Flos de spina, which connects the $[\text{sqb+rd} ]$ and the possibility of enharmonism from the Notre dame source $\text{F}$ to this sign $[ \ ]$ in the recension of Flos in the
Las Huelgas codex, and the revelation that this sign [ἦ] in the fr. 571 recension of the motet *Qui secuuntur* / *Detractor est* / *Verbum iniquum* was earlier signed in a recension of the same motet from which the 571 copy was made by [sqb+rdb] is that: a) this sign [ἦ] signals a non-diatonic pitch; and b) because we know something about the persons named in this motet, we can reasonably date it not later than 1314, and thereby point to a time when the third sign did not yet exist. Thus, *falsa musica* may have been in use only a few years prior to *Lucidarium*, even though the tradition it represented was much older.

Finally, Marchetto’s description of *falsa musica* as a bisected square-b is the clue that suggests this sign [ἦ], on account its third diagonal stroke, is the notated version of this text icon [ὣ].

**IV.6 — Review of the Evidence So Far**

In the late eighteenth century, the use of microtones as discrete intervals in counterpoint was part of a distant past that no one alive at the time knew had even existed. The first inkling that microtones had once been part of European music came in 1784, when Martin Gerbert published his editions of Marchetto’s *Lucidarium* and *Pomerium*. To the few who might have paid Gerbert any serious attention, Marchetto’s descriptions of a tiny one-fifth tone diatonic semitone and its outsize chromatic counterpart must have been all but incomprehensible.

Gerbert himself does not seem to have fully grasped the microtonal thrust of Marchetto’s five-fold division of the tone. While his substitution of first the recumbent-b [ἢ] and then the square-b [ἦ] to represent *musica colorata* [ὦ] was forced upon him by the physical limits of his printing press, the fact that only after seeing *musica colorata* signed twenty-four times in *Lucidarium*, and then a twenty-fifth time in *Pomerium*, and only then does he insert a footnote
telling the reader that his reproduction is not exact, suggests that he saw *musica colorata* as simply an unusual form of the square-b.

What this in turn meant was that, for the following two hundred years, Marchetto’s instructions were garbled—his text instructed the singer to move by the non-Pythagorean interval *chroma* and the microtonal *diesis*, while his accidental signs indicated chromaticism via the major and minor semitones.

It was not until Jan Herlinger’s critical edition of the *Lucidarium*, published in 1985, that Marchetto’s sign was accurately reproduced and his text made once again congruent. In the meantime, the long project to transcribe, edit, and publish the known corpus of fourteenth- and early fifteenth-century polyphony had been completed that same year, and therefore in the absence of an accurate picture of his Marchetto’s sign.

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With the benefit of Herlinger’s edition and the advent of high-quality color facsimiles of fourteenth- and early fifteenth-century manuscripts that began to be available both in print and online in the late 1990s and early 2000s, the project that eventually became this thesis became possible, and began as a search of the sources for Marchetto’s sign.

What I found was that *musica colorata* was indeed present in the sources (see the Introduction, part **C. Visual Indices**; details in Chapter V) What I did not anticipate, but which turned out to be just as interesting as the *musicae coloratae*, were the unusual forms of square-b. (Visual index in the Introduction, part **C.**; details in Chpt.VI).

Just as interesting were the signs with “dots” (i.e., an insert of some manner, whether an incise, triangle, or dot) added to the quadrangular part of the sign. (Visual index in the
Introduction, part C.; further indices of these signs, plus analyses of six works in which they are analyzed in Chapter VII.)

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At the center of this study, therefore, is Marchetto, whose testimony in *Lucidarium* and *Pomerium* provides a window into a lost tradition of microtonal inflection. That Marchetto was not a prophet crying in the wilderness is evident from the six theorists who, posterior to him, also wrote about microtonal inflection. Of them, Guido frater, the closest to Marchetto in terms of chronology, also hews the closest to him in terms of theory: he is the only writer to illustrate *musica colorata* and to refer to it as “the sign of the chromatic semitone [signum semitonii cromatici est].” The two best known of these six, Ciconia and Prosdocimo de´Beldonandi, are also the furthest in time from Marchetto. From a temporal distance of between eighty to one hundred years after Marchetto is last known to have been active, they attest to a continuing interest in microtonal inflection. Prosdocimo even gives us an update on the most current signs in use to signal it, including the sharp and the sign I call the “swung sharp.” But perhaps the most interesting contribution is that of the *Tonus dividitur in 3 partes*, whose anonymous author describes a division of the tone into one-third and two-thirds parts, and thus points to a practice outside anything Marchetto or the others who come after him describe.

Anterior to Marchetto, chronologically, are the musicians I call the *falsa musicisti* after the sign they use and what it signifies, which is mutation, and not the permutation that underpins *Lucidarium* 2.5-2.8. Among the many revelations of *Pomerium* 4 is that *falsa musica* was neither Marchetto’s name nor the name of this sign [♯]. It was instead this icon [♭], which stands in for this sign: [♮], and which signals *diesis* but not *chroma*. Its name connects it to hexachordal theory, and therefore to thirteenth-century practice. The question of why Marchetto’s proof of
the superiority of *musica colorata* to *falsa musica* is so unconvincing—and why it is so convoluted—is that the two signs came from different musical traditions and do not represent the same thing, despite Marchetto’s indication to the contrary in *Pomerium* 4.17.1.

It was Marchetto’s description in 4.17.2 of *falsa musica* as a bisected square-b that led to the connection of this icon [♀] with this sign: [♀]. And it was the presence of the compound sign [sqb+rdb] in the F recension of *Flos de spina* and in the fr.571 recension of *Qui secuuntur*—later transcribed in Hu and fr.571 with [♀]—that points to this sign [♀] as signaling a microtonal inflection. What’s more, if *Qui secuuntur* was composed between 1307 and c.1314, then this sign [♀] and this [♀] were both relatively new as of c.1317-19 when *Lucidarium* and *Pomerium* were being composed. And though we have no idea at the moment of how common microtonal inflections were in the thirteenth century, what this tells us is that they seem to have been indicated either by this sign: [sqb+rdb], or were maintained in memory. Some necessity apparently brought about the creation of a dedicated third sign in the handful of years just prior to the compilation of *Lucidarium*. Whether this was due to the advent of direct chromatic motion, or to a combination of events, is not possible to say. What is important is that a dividing point was reached, c.1314-15, that separated an older tradition from an emerging practice that was sufficiently different from what had come before that Marchetto attempted to silence the proponents of older style and to replace them with singers trained in the new style.

This last point cannot be stressed enough. Marchetto stands at the junction between an older tradition of enharmonism that crossed from plainchant to polyphony somewhere in the first half of the thirteenth century (if not earlier) in which the use of *diesis* was accepted but false mutation (i.e., from bfa to bmi) was proscribed. That such a tradition existed in the second half of the thirteenth century is attested by Jerome of Moravia, writing in Paris about the year 1280:
“The French, contrary to other nations, are fond of mixing non-diatonic intervals with ecclesiastical music, particularly through the association of the enharmonic diesis with the diatonic genus.4

and:

You may be sure that the *fa* of *bfa* does not mutate to the *mi* of *bmi*, or vice versa—on that note or any other.5

Jerome’s proscription may not have had the force of law, but given the absence of direct chromatic motion in the notated sources of thirteenth century polyphony, it appears to have been followed. This means that thirteenth-century singers would only have known the major semitone from their monochords, not as an interval that they ever sang. It’s also likely that they didn’t think of the tone primarily as the sum of two semitones, so much as they viewed tonal space as a series of interleaved tones and semitones. The four ways to situate one semitone among three tones defined the basic modes of plainchant: protus, deuterus, tritus, and tetrardus.

The exchange of tone and semitone within the minor third, moreover, is the essence of hexachordal mutation. This is why monochord divisions of Pseudo-Odo’s *Dialogus de musica* and Guido of Arezzo’s *Micrologus* produce a chromatic passage in theory, only: a-b-h-c. In practice, one negotiates this stretch of the gamut either a-b-h-c (solmized mi-fa-sol) or a-h-mi-fa. This is the point of Fig.5 in the Technical Forward: the system of hexachordal solmization does not accommodate chromatic motion, and seems to have been designed to prevent it.

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4 “Gaudent insuper, cum modum organicum notis ecclesiasticis admiscet, quod etiam non abjicit primus modus, nec non et de admixtione modorum duorum generum relictorum. Nam diesim enharmonicam et trihemitonium chromaticum generi diatonico associant. Semitonium loco toni et e converso commutant, in quo quidem a cunctis nationibus in cantu discordant.” Jerome of Moravia, *Tractatus de musica*, 187.

5 “Ut scilicet fa, quod est in b fa acuto, non potest mutari in mi, quod est in [sqb] mi acuto, nec e converso (in his et in omnibus aliis clavibus)”; ibid., 49.
It is no different when negotiating the minor third between e-g, save that this stretch of the gamut is disposed semitone-tone, only. Rearranging this to tone-semitone involves momentarily establishing a fictitious hexachord on d so that the square-b (now an accidental sign, as opposed to the pitch letter it originally was) inflects f: e♭-g. But the solmization is no different than for a-♭-c: re-mi-fa. The diatonic minor thirds a-c and e-g are therefore always negotiated tone-semitone, or semitone-tone.

The advent of *chroma* fundamentally changed all this: it required thinking of the tone as a quantity, and the use of the false mutation that Jerome says cannot be to form the two intervals *chroma* and *diesis* or vice versa. It’s likely that solmization was of no use in learning how to negotiate the two semitones, and this may be why it is all but absent from Marchetto’s discussion of permutation.

Thus, to put the advent of *chroma* in perspective: for those trained in the old tradition, permutation upended their fundamental concept of tonal space and added an interval to their vocabulary that they were neither trained to hear nor to sing, and which for some may have been difficult or impossible to negotiate. I’m guessing that some of the older generation may have liked the new music, but that others, perhaps most, did not. It seems plausible that the advent of the “third sign”—in its multiple forms—was coincident with the advent of the new chromatic music.

And a final observation: three of the four semitones Marchetto elucidates in *Lucidarium* were not new: *diesis* and the two Pythagorean semitones, by whatever name they were called, had existed since antiquity, and were known to the medieval west through Boethius. The semitone that was new was *chroma*. It may well have been the need to account for it theoretically that was the inspiration of the five-fold division of the tone.
Marchetto’s *musica colorata* Sign

V.1 — Introduction

As Chapters I and IV indicate, the tradition that *falsa musica* represented had roots that stretched towards—and likely—into the thirteenth century, even though the sign itself had perhaps only come into being just prior to *musica colorata*. Significantly, while the tradition of *falsa musica* incorporated *diesis*, it did not incorporate the chromatic semitone. What distinguished the new style of music that *musica colorata* signified was its unabashed embrace of the chromatic semitone. And while chromaticism is an unremarkable fact of musical life for anyone reading this document, it was not always so. From the eleventh century to the end of the thirteenth, use of the chromatic semitone was proscribed. Its introduction in the early fourteenth century—especially in the form of the enormous interval Marchetto calls *chroma*—met with resistance, to judge from *Pomerium* 4.

Heretofore our understanding of unusual accidentals was limited to this sign [\(\text{\textdagger}\)], which we knew as *falsa musica*, and which we understood to inflect *chroma* and *diesis*. The discovery that this sign [\(\text{\textdagger}\)] was an icon for *falsa musica* as notated on the staff [\(\text{\textdagger}\)], while this sign[\(\text{\textdagger}\)] is *musica colorata*, and that while both signs signal *diesis*, only the latter signals *chroma*, places Marchetto in a new light: rather than being the first to advocate microtonal inflection, Marchetto is the first to break with—or at least the first to write about the break with —tradition, and to explicitly promote chromaticism. It is against this background that Marchetto’s five-fold division
of the tone, and the formation of *chroma* and *diesis* that result should be understood. And it is probably also why Marchetto explains his theory in such detail: evidently it was new.

Among the revelations of *Pomerium* 4 is that it was Marchetto’s intention to cause the retirement of *falsa musica*, which signaled only *diesis*, and to replace it with *musica colorata*, with its explicit chromatic significance. The evidence, such as I have been able to find, is that he did not succeed in this endeavor. Manuscripts signed with the three-stroke square-b, which I believe to be *falsa musica*, are found in France in the first quarter of the fourteenth century, and then in Spain perhaps a decade or so later, and then in considerable numbers in England in the second half of the century, after which it seems to disappear.

*Musica colorata*, on the other hand, is found in three important motets, all of Italian provenance, dating from perhaps about 1320 to 1365. It is next found—and in considerable numbers—in the Chantilly MS, from the late fourteenth century, and then again in the Reina codex from the early fifteenth, where it is adorned with dots. I last found *musica colorata* in a manuscript of Burgundian chansons (Escorial A) from about 1440, though whether it still meant what Marchetto tells us it means is not possible to determine.

In this first chapter on the three types of unusual signs, I look at just the three earliest motets to use *musica colorata*. The first is almost certainly by Marchetto, and the second of could have been written while he was still living. Marchetto was very likely deceased by the time the third was composed, and its use of the accidentals seems more stylized and less explicit than in the two earlier motets. The addition of a third stroke through the *quadrati* of all four signs also suggests a commingling of influence of *falsa musica*, even though I have yet to find *falsa musica* in any Italian source. Those sources from the turn of the century, on the other hand, are distant enough from Marchetto to require a separate study.
This chapter is therefore the shortest of the three chapters devoted to unusual signs. This is not, however, because there is less to say about *musica colorata* than about *falsa musica* or the dotted signs, but because there appears to be every reason to apply what Marchetto says his sign indicates in at least the first two of these of these motets. Their opening salutations to the Virgin Mary and to St. Mark seem like very appropriate places to employ the extremely wide sixth-to-octave or tenth-to-twelfth progressions that Marchetto describes over and over in *Lucidarium* as the quintessence of beauty.¹

There is one exception to this, however: none of them use *musica colorata* to signal a chromatic progression.

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**V.2 — Ave regina / Mater innocencie / Ite missa est “Joseph”**

**V.2.1 History of the Motet**

In 1973, a notice was published in the Vatican newspaper, *L'Osservatore Romano*, indicating that a trio of documents from the archives of the Cathedral of Padua contained pay records for a “Marchetus” who was teacher of the boys.² The first two documents indicate that this Marchetus was employed in early 1305 and still held this position in 1306. The third and final notice records his donation of part of a benefice to the Cathedral in 1307; whether he was still in Padua at that time is unknown.

Shortly thereafter, F. Alberto Gallo examined these documents and published his findings in a 1974 article in *Archiv für Musikwissenschaft* in which he concluded that the “Marchetus”

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¹ “Thus the “chromatic” is called the “the color of beauty [Inde cromaticum color pulcritudinis appelatur]”; Herlinger, *Lucidarium* 2.8.6, 150-151.
named in these documents was that same Marchetto of Padua who wrote the treatises *Lucidarium* and *Pomerium*.\(^3\) Noting that 1305 was also the year in which the Scrovegni Chapel in Padua was consecrated, Gallo examined the anonymous three-voice motet *Ave regina / Mater innocencie / Ite* “Joseph,” found on ff.61v-62v of the manuscript Oxford, Bodleian Library, canon. class. lat. 112,\(^4\) and concluded that the scribe of the manuscript as a whole, Prosdocimo da Cittadella, *custos* of the Cathedral of Padua and Paduan notary active during the years 1312-40, was also the motet’s text scribe.\(^5\)

In the process of examining the texts of the Triplum, Gallo discovered an acrostic that spells out a conflation of the famous greeting of Gabriel to the Virgin Mary: “*AVE MARIA GRACIA PLENA DOMINUS TECUM BENEDICTA TU IN MULIERIBUS*” and the subsequent greeting of Elizabeth, mother of John the Baptist, to Mary: “*BENEDICTA TU INTER MULIERIBUS ET BENEDICTUS FRUCTUS VENTRIS TUI*.\(^6\) Both texts connect the motet to the Annunciation, and by circumstance, to the Scrovegni Chapel.\(^7\)

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3 Gallo, “Marchettus in Padua,” 44.
4 Oxford, Bodleian Library, canon. class. lat. 112 is an early fourteenth-century parchment manuscript of sixty-three folia containing two works in Latin by the thirteenth-century Milanese grammarian and poet Bellino Bissolo: the *Speculum vitae* and *Liber legum moralium*. It was copied by the Paduan scribe Prosdocimus da Cittadella, whose explicit, dated 1325, appears on f.58v of the MS; see RISM B/IV/4, p.666. “In the last section of the manuscript, save for a few further texts of different contents and some melodies from the Ordinary and the Proper of the Mass, is a three-voice Motet *Ave regina celorum Mater innocencie*.” Gallo, “Marchettus in Padua,” 44-45. Gallo does not point out that the motet follows Prosdocimus’ explicit, meaning that it could have been added to the manuscript at some later date.
5 “The motet … seems—at least as far as regards the text—to be written in the hand of the same Prosdocimus de Cittadella, who, at the end of the main part of the manuscript testifies as mansionarius and custos of the cathedral as well as notary, and whose name appears in Paduan documents from 1312 to 1340.” Ibid., 45.
7 “Dedicated to the Virgin and named therefore *Chiesa di S. Maria Annunziata*, it owed to its ancient surroundings its further name of *Chiesa del’ Arena*. Its founder however had bestowed on it that of *S. Maria della Carità*, to which in public and private documents as well as in common parlance it was usual to add, *della Rena*.” Andrea Moschetti, *The Scrovegni Chapel and the Frescoes Painted by Giotto Therein*, trans. Wm. Cook (Florence: Fratelli Alinari, 1907), 9.
In examining the Duplum, Gallo made a second, more significant discovery: it has an acrostic that spells the name “MARCVM PADVANVM.” On the basis of this, and because the Dramatic Office of the Annunciation, preserved in two liturgical books of the Cathedral library, contains the antiphons *Ave Maria gratia plena* and *Benedicta tu in mulieribus*, Gallo attributed the motet to Marchetto and posited that it was composed for the consecration of the Scrovegni Chapel on 25 March 1305.

Since then, the attribution of *Ave / innocencie / Ite* to the “Marchetus de Padua” who names himself in the dedicatory epistles of the *Lucidarium* and *Pomerium* has generally been accepted, though a few scholars have been hesitant to explicitly endorse this attribution. For the moment, and for the sake of ease, I will attribute this motet to Marchetto, while acknowledging that it is possible someone else composed it.

There are a few other things regarding this motet about which we are reasonably sure. It is one of a handful of early *Trecento* motets with its tenor pitched as the middle voice.

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8 “The name in the acrostic stands in the accusative case and thus agrees with the *me* of the last verse and in fact elucidates it—the sense is thus: *Virtus tue clemencie me [= Marcum Paduanum ] solvat a peccatis.*” Gallo, “Marchettus in Padua,” 48.

9 A pair of identical *Processionales*, I-Pc C55 and C56 (hereafter, C55/56), preserve the chant, polyphony, and rubrics of seven liturgical dramas celebrated at the Cathedral during the late thirteenth through early fifteenth centuries; for a facsimile and modern edition, see Guiseppe Vecchi, *Uffici drammatici Padovani* (Florence: Leo Olschki, 1954). The Annunciation Office, which involved a procession from the Cathedral to the ancient Roman arena, where the Annunciation was re-enacted near where Enrico Scrovegni later built his famous chapel, dates to the late thirteenth century; see *The Dictionary of Art*, s.v. “Padua” (Gilbert Creighton). According to Nino Pirrotta and Pierluigi Petrobelli, the *Processionales* are copies of earlier exemplars and date from the fifteenth century, while observing that the music they transmit might well date from the late thirteenth century; see *The New Grove*, s.v. “Italy.”


11 Notably Jan Herlinger; on account of its acrostic, Margaret Bent has recently noted on the DIAMM that the acrostic MARCVM PADVANVM in the motettus permits attribution to Marchettus of Padua.

melody of its tenor was drawn from the Alleluia of the thirteenth-century Feast of the Annunciation—later to become an independent *Ite missa est*—and is called “Joseph.” The length of the tenor—and therefore of the motet as a whole—is thirty-nine perfections (or perfect longs). This fact connects it to another motet with a middle-voice tenor, also built on the same melody, and also thirty-nine perfections in length: *Se grasse / Cum venerint / Ite missa est*, from the so-called “Mass of Tournai.” These two motets are therefore related, though exactly how is not clear.

There is also much we do not know about *Ave / innocencie / Ite*, in particular, its date of composition. In order of their appearance in print, the following scholars have weighed in on the matter: Gallo is the first to state that *Ave / innocencie / Ite* was written for the consecration of the Scrovegni Chapel on 25 March 1305. A few years later, Kurt von Fischer expressed doubt that a motet whose composer wove a plea for personal salvation into one of the texts would have been sung at so public a ceremony, and suggested a dating of 1315-1320 instead. Margaret Bent, in her table of fourteenth-century Italian motets, lists *Ave / Mater / Ite*’s date as “?1305,” but in her text, agrees with von Fischer that it could be later. On the basis of her study of the tenor’s melody, Anne Walters Robertson assigns the motet back to Marchetto’s years in Padua and connects it to the Scrovegni Chapel, though not necessarily to its consecration in 1305.

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12 Newes, “Early Fourteenth-Century Motets,” 40.
16 Gallo, “Marchettus in Padua,” 47.
18 “Marchetto subsequently displayed his familiarity with the French rhythmic innovations attributed to Vitry in the *Pomerium musice*, but F. Alberto Gallo’s proposed date of 1305 for the motet is a full decade earlier than the traditional dates for the complex of *Ars nova* treatises associated with Philippe de Vitry. I agree with Kurt von Fischer that this motet might be later.” Margaret Bent, “The Fourteenth-Century Italian Motet” In *L’Ars Nova Italiana Del Trecento VI*, ed. by Giulio Cattin and Patrizia Dalla Vecchia, 85-125 (Certaldo: Edizioni Polis, 1992), 95.
19 “Unlike composers writing after about the third decade of the fourteenth century, Marchettus made very conservative use of isorhythm, restricting it to the tenor. The basic construction is simple: the *talea* is repeated six
Virginia Newes agrees with von Fischer’s objection to the 1305 date, and with his possible
dating of c.1315-1320.²⁰ Finally, Karl Kügle observed that if Ave / innocencie / Ite were modeled
after Se grasse, its date would be c.1315.²¹

V.2.2 — The Circumstances Connecting Ave / Mater / Ite to the Scrovegni Chapel

A series of parallel circumstances connect the Chapel and the motet. The first is the
triumphal arch at the front of the nave, which commands the viewer’s attention upon entering the
chapel and on which the Annunciation is portrayed,²² and which may be mirrored by the acrostic
“Ave Maria gracia plena” in the motet’s triplum.²³ The second is the portrayal in The Virgin’s
Wedding Procession of a bowed string player and two wind players, perhaps mirrored by the pair
of references in the motet’s Triplum to musical instruments—the viella and the cimella.²⁴ The
third is the correspondence between the number of frescoes in Giotto’s cycle depicting the
history of Christ and the number of perfections in the tenor of Ave / innocencie / Ite: both come
times, and the color is heard twice. The presence of tenor repetition points to the older French modes, for there is
little repetition of this sort in Italian motets from later in the century. In addition, none of the compositional games
that one finds in later words—diminution and palindrome—are present here … these features strongly suggest an
early date for the motet, making the year 1305 possible.” Robertson, “Remembering the Annunciation,” 302.
Margaret Bent’s reluctance to accept so early a date is acknowledged in the footnote immediately following; see
ibid., 302 n. 89.
²⁰ 1315-1320 is “a more likely date of composition, at a time when the influence of Philippe de Vitry was already
being felt in Italy.” Newes, “Early Fourteenth-Century Motets,” 43.
²¹ Karl Kügle, The Manuscript Ivrea, Biblioteca Capitolare 115: Studies in the Transmission and Composition of
Ars Nova Polyphony (Ottawa, Canada: Institute of Mediæval Music, 1997), 164-65.
²² “After stepping through the chapel’s door, the visitor sees the chancel arch straight ahead. At the top of this arch,
God the Father dispatches Gabriel to announce the coming of Christ to the Virgin. The Annunciation is seen below
in two frescoes painted on either side of the arch: on the left Gabriel announces the coming of Christ; on the right,
across the arch, the Virgin receives his tidings. The size and prominent position of the events of the Annunciation
reflect the chapel’s dedication to this sacred incarnation, which marks the beginning of humanity’s redemption.”
²³ See note 7 above.
²⁴ The references to the viella and cimella appear in lines 10 and 13, respectively. The Virgin’s Wedding Procession
is reproduced below in Fig.V.3a. Eleonora M. Beck identifies the bowed stringed instrument as the viella and the
wind instruments as cimella, “Marchetto da Padova and Giotto’s Scrovegni Chapel Frescoes.” Early Music 27
(1999): 7-23 [16-17].
to thirty-nine. Though the thirty-nine perfections of its tenor have been noted before, Eleonora Beck is the first to connect this number with that of the frescoes of the Scrovegni Chapel.

The numbering of the frescoes in Giotto’s cycle, on the other hand, is an established fact of art history: two schematics, one recent, the other more than a hundred years old, demonstrate this; (see Fig. V.1 below).

The Scrovegni Chapel frescoes must have required a formidable amount of planning and preparation before painting could commence. The degree of advance planning necessary for the

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25 “Of the thirty-nine paintings found in this chapel, that of the Annunciation enjoys an especially prominent place, both in terms of its physical position and of the extraordinary emphasis on the details of the story.” Robertson, “Remembering the Annunciation,” 279. “The total number of modus measures in the Marchetus motet [is] 39.” Newes, “Early Fourteenth-Century Motets,” 43.

26 “Marked similarities arise from a comparison of the structure of Marchetto’s motet Ave regina celorum and the numerical framework of Giotto’s frescoes. The motet makes allusions to the 39 scenes that directly concern the lives of the Virgin and Christ as represented in Giotto’s narrative. Strikingly, Marchetto’s motet has a duration of 39 longae.” Beck, “Marchetto da Padova,” 15.


28 Cole’s description of the process of planning and executing a fresco gives a good idea of just how much work Giotto had to do before painting could even begin; Giotto, 19-22.
tenor of a motet is obviously not comparable to that needed for a monumental cycle of frescoes, but the tenor is still the foundation of the motet, and has to be thoroughly planned out, since everything that happens in the other two lines is based upon the tenor.\(^{29}\) That the number thirty-nine occurs in both suggests a legitimate connection.

There is a fourth circumstance that connects the tenor of *Ave / innocencie / Ite*—which is built upon a melody called “Joseph”—to the patron of the Chapel, Enrico Scrovegni, through his association with the *Cavalieri Gaudenti*. The *Cavalieri* were a religious confraternity which had the dual goals of devotion to the Virgin and the extirpation of usury, and who would admit married laymen to the order if they would take a vow of marital chastity. Enrico, who was married and had children, was a member of the *Cavalieri* at the time the Scrovegni Chapel was consecrated in 1305.

Perhaps significantly, art-historical research has shown there to be an unusual focus on the theme of marital chastity in Giotto’s cycle of frescoes for the Chapel, and this puts the legendary figure of Joachim, and the Biblical figures of Joseph and John the Evangelist, in a new light. To understand the connection of Enrico, the theme of marital chastity, and motet’s tenor, an examination of Giotto’s portrayal of these three figures is needed.\(^{30}\)

The first six panels of Giotto’s cycle tell the story of Joachim and Anna, a wealthy, pious, but unfortunately childless couple. In the first panel, Joachim is turned away from the Temple on Feast Day and forbidden to offer sacrifice because he is without offspring and is therefore unworthy. Profoundly ashamed, he does not return home to Anna, but retreats to his sheepfold in

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\(^{29}\) See Newes’ discussion of the tenor of *Ave regina*; “Early Fourteenth-Century Motets,” 39-43.

\(^{30}\) The association of Enrico with the *Cavalieri* and the significance of his vow of chastity is explored in detail in Robert H. Rough’s “Enrico Scrovegni, the *Cavalieri Gaudenti*, and the Arena Chapel in Padua.” *The Art Bulletin* 62, no. 1 (1980): 24-35. What follows is largely adapted from his article. Anne Walters Robertson traces the history of the *Ite missa est* melody “Joseph” from its origins as the Pentecost Alleluia *Spiritus sanctus* to its contrafacton as the Alleluia *Missus est angelus Gabriel* for the thirteenth-century Annunciation liturgy to its subsequent and widespread adaptation as the concluding refrain of the Mass, *Ite, missa est*; see Robertson, “Remembering the Annunciation,” 287-92.
disgrace, where he appeals directly to God. After making his sacrifice in the wilderness, Joachim falls asleep, and is visited in a dream by an angel who announces that Anna shall conceive a daughter who is to be the mother of God; Anna likewise receives an angelic visitation with the same news. In the final panel of the story, Joachim and Anna are joyfully reunited at the Golden Gate, where their embrace symbolizes the moment of conception of the Virgin Mary. It is significant that in these six panels, Anna appears in only two: alone, in the Annunciation to St. Anne, and together with Joachim in the Meeting at the Golden Gate. The remaining four are devoted to Joachim and his travails.

In most versions of the story, Joachim is said to live under a curse: he is childless because Anna is sterile. In a second version, however, the couple’s childlessness is the result of Joachim living in a state of marital chastity, or castum coniugium. Joachim’s eventual reward for his chastity is the conception of the Virgin. Giotto’s telling of the story cleaves to this second version. Joachim’s wealth and his almsgiving, which are prominent in the majority version of the legend, are absent from Giotto’s cycle—what is emphasized in the Scrovegni frescoes is Joachim’s chastity.

The next six panels tell the story of the Virgin Mary from her birth to her marriage to Joseph. There is again an unusual emphasis on Joseph, who appears in three of the six panels: the Virgin’s Suitors Presenting Their Rods, the Suitors’ Prayer before the Rods, and the Marriage of the Virgin; (see Fig.V.2 below). Robert H. Rough, from whose article this summary is

31 The titles of the frescoes corresponds to the schematic in Cole, “Giotto,” 26 (see Fig.V.1 above); Rough’s names for the panels differ slightly.
32 There are many versions of this story: Robertson briefly discusses the Protoevangelium of James and “the wildly popular Golden Legend” of Jacobus Voragine; see “Remembering the Annunciation,” 277; Rough cites Pseudo-Matthew and Voragine as the main sources for Giotto, but notes that he may also have been using an unnamed and perhaps now-lost third textual source; see “Enrico Scrovegni,” 29.
33 See Rough, “Enrico Scrovegni,” 30, n.43 for the sources of this variant and their interpretation.
developed, points out that a grouping of these three scenes is known in only two Eastern cycles and one Western cycle, and of these, Giotto’s is unique in presenting Joseph in all three.34

<table>
<thead>
<tr>
<th>Fig.V.2: Joseph’s Betrothal to the Virgin</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Image" /></td>
</tr>
<tr>
<td>a) The Presentation of the Rods</td>
</tr>
</tbody>
</table>

Joseph is also prominent in another pair of linked scenes: the Nativity and the Adoration of the Magi; (see Fig.V.3 below). In the Nativity, Joseph is the figure closest to the viewer; the Virgin and Child are behind him in the background. In the Adoration, Joseph stands to the right of Mary, still wrapped in his saffron-colored cloak, the most massive figure of the scene save for the Magus who kneels before the infant Jesus.

<table>
<thead>
<tr>
<th>Fig.V.3: The Birth of Christ</th>
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<tbody>
<tr>
<td><img src="image4.png" alt="Image" /></td>
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<tr>
<td>a) The Wedding Procession</td>
</tr>
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Following the Flight into Egypt, the role of chaste husband passes from Joseph to John the Evangelist, the bridegroom in the Wedding at Cana, who leaves his bride-to-be in order to follow Christ. John thus foregoes a carnal marriage for a spiritual—and chaste—union with

34 Ibid., 30.
Christ, and it is John whom Christ, moments before his death on the cross, commands his mother to adopt and vice versa. Fittingly, John appears at the side of the Virgin in the Last Judgement, the thirty-ninth and final fresco that covers the West wall of the Chapel.

Just above and to the right of the entrance doors there is a detail in the Last Judgment, sometimes known as the Donation of Enrico, showing a kneeling Enrico and an unidentified monk presenting a model of the Chapel to a trio of heavenly figures, in the center of which is the Virgin Mary; (see Fig.V.4 below). This arrangement very closely resembles the trio of figures in the Adoration of the Magi in which the Virgin Mary is flanked on her left by an angel, and on her right by Joseph. The figure to the Virgin’s left in the Donation is unidentified, but to her right is John the Evangelist, who now assumes Joseph’s place. Rough notes that Enrico is cloaked in a robe of the same color (purple) that the kneeling magus wears in the Adoration, and that each of these parallels—color, position, the donation of a princely gift—signals Enrico’s special position on earth, not only as magus but, by virtue of his marital chastity, as heir to the line of Joseph.

Fig.V.4: The Donation of the Chapel

a) The Donation of Enrico
b) The Adoration

35 Gilbert, “Padua,” identifies this figure as Mary Magdalene.
Thus, in addition to the coincidence of musical perfections and the number of frescoes, there appears to be a deliberate connection between: i) the melody “Joseph” in the motet’s Tenor; ii) Enrico, who seems to have regarded himself as following in the footsteps of the chaste trio of Joachim, Joseph, and John; and iii) the frescoes, in which the theme of marital chastity is prominent.

* * * * *

To return to Gallo’s hunch that Marchetto wrote *Ave / Mater / Ite*, and that he did so for the dedication of the Scrovegni Chapel in March of 1305: I think he was absolutely right about Marchetto’s authorship, and right also about there being a connection between the motet and the Chapel; (Anne Robertson, too). But it seems unlikely, given Marchetto’s personal plea for salvation, that it was written for the dedication.

**V.2.3 — The Accidental Signs of Ave / Mater / Ite missa est**

The sole extant recension of *Ave / innocencie / Ite* survives in a set of parchment leaves bound into the end of an otherwise non-musical volume, and is now ff.61v-63r of the manuscript Oxford, Bodleian Library, canon. class. lat. 112; (hereafter, Ob 112). Gallo identified the text scribe of the motet as one Prosdocimus da Cittadella, a Paduan cleric and notary who was active from 1312 to 1340, and the same scribe as copied the manuscript as a whole.

The manuscript bears a date of 1325, but because it appears on ff.58v, we cannot tell when the copy of the motet was made. The complex of parchment leaves on which it was copied seems originally to have been a bifolio, but at some point after the music was copied—though evidently before it was bound into its current volume—exposure to damp caused its fold to rot away. What
remains are three leaves, joined at the gutter by parchment strips (see Fig.V.5 below). If there was once a fourth leaf, it is now lost.

The remaining three leaves are ruled with six five-line staves, and on the basis of the text-music spacing of lines three and four of f.62r, it is evident that the copying of the music must have preceded that of the text. The exemplar from which the Oxford recension was copied seems to have been laid out over a single opening, and either its page was bigger, or its notation more compact, or both, because the Oxford copy could not be made to fit on ff.61v-62r.\textsuperscript{36} Despite running lines five and six of the triplum through the gutter of f.61v and across the rest of f.62r, the music scribe still had to use the first stave of f.62v to finish the Triplum and the second stave to finish the Duplum. He managed to keep the tenor from spilling over to the verso only by extending it out to the edge of the leaf. The damage from moisture and the subsequent repairs to the parchment have caused the loss of text and music where staves five and six cross the gutter.

\textsuperscript{36} See, for instance, \textit{Tribum que non abhorruit}, another middle-voice motet from the \textit{Roman de Fauvel}. 
Fig.V.5: The Oxford Recension of Ave / Mater / Ite

a) f.61v

b) f.62r

c) f.62v
d) f.63r
While the notation itself is clear and of good quality, the fact that the scribe so badly misjudged the proportions of his copy suggests that he was not a professional, and the fact that the rest of the bifolio was ruled but left blank suggests that this might have been an archival copy, made perhaps long after the motet was composed, and for the purpose of preserving it.

One such indication of this may be its accidental signs, which are visually striking: the \textit{b-quadrati} in particular are massive, but it is the signs they cancel that are the more important, for they are Marchetto’s \textit{musica colorata} sign, drawn with extremely long vertical strokes and most matched in proportion by the illustration of \textit{musica colorata} in Pom.17.15.

Of the nine clearly visible accidentals that signal upwards (i.e., \textit{mi-fa}) inflections, all are Marchetto’s \textit{musica colorata}. Another two signs, \textit{p/11} and \textit{q/12}, are visible only under ultraviolet light. Of these, \textit{q/12} is \textit{musica colorata}. Enough of its vertical strokes remain to confirm this, though its diagonal strokes are no longer visible.

The other sign, \textit{p/11}, is not \textit{musica colorata}—it is a square-b with a single diagonal stroke. In other words, it resembles the icon of \textit{falsa musica} \[\text{\textit{V}}\] in \textit{M}, and its presence in this motet raises a fascinating question: if \textit{p/11} is another form of \textit{falsa musica}, what is it doing in \textit{this} motet of all motets, which appears to be so deeply connected to Marchetto, and for whom the \textit{falsa musicisti} were a competing faction whose sign he wanted to suppress?

Another question is what do the two single-stroke (\textit{a/1}; \textit{f/6}) and the three-stroke \textit{musicae coloratae} (\textit{c/3}; \textit{j/9/t/20}) indicate?

We will encounter the three-stroke \textit{musicae coloratae} in \textit{Marce Marcum imitaris} in \textbf{V.4} below.
Fig. V.6 above collates all the upwards-inflecting signs in Ob 112. The topmost row identifies each sign; the row immediately below shows an enlargement of each sign, and the row below that, their corresponding black and white ultraviolet images. I note that signs a/1 and f/6 have only one clearly visible diagonal stroke; signs c/3, j/9, l/15, and t/20 have three diagonal strokes; and only h/7 and s/19 have the two diagonal strokes of square-b, from which Marchetto derives *musica colorata*; (o/10 and q/12 are too damaged to determine the number of diagonals; the single diagonal of p/11 is confirmed by its u/v image).

Signs with three diagonals are associated with *falsa musica*, not *musica colorata*, and their quite extensive use in this motet suggests that over time, *falsa musica* began to be conflated with *musica colorata*. Whether the one- and three-stroke varieties conveyed a different degree of inflection is impossible to know. It does suggest, however, that this phenomenon occurred after some time had passed, and which, in turn, lends support to my suggestion that the Oxford recension is a preservation copy.

To return, in conclusion, to Gallo’s suggestion that the motet dates from 1305, I think it is possible, since enharmonism seems to have crossed over into polyphony long before that date,
and the motet could have been inflected with square-b prior to the development of special (i.e., unusual) accidental signs to indicate non-Pythagorean intervals. But I don’t think it is very likely. Probably the most that can be said is that it was composed before 1317; Karl Kügle’s estimate of c.1315 seems about right. Whether it was signed with *musica colorata* or another sign, however, is not possible to tell.

**V.3 — *Ave corpus sanctum***

*Ave corpus sanctum gloriosi Stefani* (hereafter, *Ave corpus*) is a four-voice, early fourteenth-century Italian motet inflected by four types of accidentals: round-b, square-b, *musica colorata*, and a fourth sign for which there is no name. Its middle-voice tenor places it in the company of a very small group of fourteenth-century motets and an even smaller group of early Italian motets. Its use of *musica colorata* connects it directly to *Ave regina*, and also to one later Italian motet, *Marce, Marcum*, to be examined in section 5.1 following. On the basis of the citation “Franciscus ducis” in the triplum, understood as a reference to Francesco Dandolo, *Ave corpus* was probably composed during the ten years that Francesco was Doge of Venice: 1329-1339.

The fragment that transmits *Ave corpus* is a pair of parchment leaves that were once part of a much larger codex. Discovered in 1968 in the monastery of San Giorgio Maggiore in Venice.

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37 Newes lists just such nine motets; see Table 3.1, “Early Fourteenth-Century Motets,” 32; see also her brief discussion of *Ave corpus sanctum* on p.45.

38 Bent, “Fourteenth-Century Italian Motet,” 122. *Ave regina* and *Ave corpus sanctum* are nos. 1 and 2 on Bent’s Table 1.

39 *Marce Marcum* is listed as no. 4 on Bent’s intabulation of Italian motets; ibid., 122. The tenor of *Marce Marcum* is the lowest-sounding voice, and therefore not discussed in Newes’ article.

40 According to the critical apparatus of PMFC vol. xii, p.203: “This motet on a probably liturgical but unidentified T[enor] was written for the ceremony in memory of the translation of the body of St. Stephen to Venice. As *Franciscus Dux*, mentioned in the triplum text (52/53), must be identical with Francesco Dandolo, who reigned as Doge from 1239 to 1339, the motet must have been written within these years.”
by F. Alberto Gallo,⁴¹ these two leaves, foliated “lxxxv” and “lxxxvi,” had been used as flyleaves in an Italian incunabulum, *Quadragesimale de floridibus sapientie*, (Venetiis 1485).⁴² At some point thereafter, the flyleaves were separated from this volume, and when Gallo discovered them, they were being kept separately.⁴³ They have since been reported to be lost.⁴⁴

Facsimiles of this fragment (siglum I-Vmg) have been published twice: first in *I più antichi*,⁴⁵ and a year later, in *Da un codice italiano di motteti del primo trecento*.⁴⁶ In *Da un codice*, Gallo refers to them using, not Marchetto’s, but Guido frater’s names: thus he calls them “the *quadrum cromaticum* [†]” and “the *quadrum enarmonicum* [♭].”⁴⁷ Since Gallo saw the manuscript in person, I will take his distinction to be accurate. The terrible quality of the facsimile, however, makes it nearly impossible to distinguish the one from the other. I will note that there is one very clear square-b (*n/14*); the *quadri cromatici*, however, seem to have a very long stroke that travels both above and below the quadrum on the right side, but a very indistinct vertical stroke on the left (see Fig.V.7 b/1 and e/2).

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⁴² Ibid., 25, n. 2.
⁴³ RISM B/IV/4: “Discovered by Alberto Gallo, the two sheets are now kept separately”
⁴⁴ “It may one day be of use to someone to know that this fragment, when I traveled to Venice in 1985 to see it, was in the possession of one Padre Pellegrino Ernetti of the Monastery of San Giorgio Maggiore, who was ailing and unable to find it.” Cross, “Chromatic Alteration,” 344, n. 1. This was recently confirmed by Dr. David Bryant, Director of the Center for Research on Documentary Sources of European Musical Life, Fondazione Giorgio Cini, Isola di San Giorgio Maggiore, Venizia: “About a year ago … I enquired about the manuscript (on behalf of the [DIAMM]) and was told it could not be found.” Personal communication with Dr. Bryant, June 2012.
⁴⁵ F. Alberto Gallo and Giuseppe Vecchi, eds., *I più antichi monumenti sacri italiani* (Bologna: Universita degli Studi di Bologna, 1968), Tav. CXXXII-CXXXIV.
⁴⁶ See n.41 above.
⁴⁷ “I segni di alterazione adoperati sono il *b molle* e due tipi diversi di *quadrum*: uno col trattino destro prolungato verso l’alto, ‡ *quadrum cromaticum*, e l’altro col trattino sinistro prolungato verso l’alto, † *quadrum enarmonicum*.” Gallo, *Da un codice*, 27. In neither *Lucidarium* nor *Pomerium* does Marchetto use these names, but Gallo’s references to square-b and *musica colorata* are unmistakable. Unfortunately, he does not identify in his transcription which is which, and every upwards inflecting accidental is transcribed with a modern sharp. Significantly, when Gallo and von Fischer published their edition of *Ave corpus sanctum* in PMFC vol. xii seven years later, they made no mention whatsoever of the variety of accidental signs. This would suggest that Gallo backed away from his discovery, and may explain why there is no mention of the *musicae coloratae* in *Ave regina* in either his 1974 article, “Marchettus in Padua,” or in the critical apparatus of PMFC vol. xii.
Fig.V.7 shows those signs in the PMFC edition that inflect imperfect-to-perfect progressions in *Ave corpus*, with my best guess as to which is which.

Gallo does not mention the very unusual sign that inflects the final cadence (s/19 above), which has very long vertical strokes on both sides of the *quadrum* and which ascend well above it, but apparently not below. There appears also to be a diamond shape inscribed within the *quadrum*, but more likely these are four dots inserted in the middle of each of its tangents.
Because signs with dots are common in northern manuscripts in the first half of the fourteenth century, and found in great numbers in manuscripts of Paduan provenance in the late fourteenth and early fifteenth centuries, and because there is a cautionary tale involved regarding the accuracy of older facsimiles, I include below a set of three subsequent images—all of the same accidental—from a manuscript in the library of the Cathedral of Padua (Fig.V.8 below):

| Fig.V.8: Three Images of the Same Sign  (from I-Pc C56, f.15v) |
|---|---|---|
| ![Image](image1.png) | 1954 | ![Image](image2.png) |
| ![Image](image3.png) | 1968 | ![Image](image4.png) |
| ![Image](image5.png) | 2013 | ![Image](image6.png) |

In the image from 1954, there is what appears to be a diamond shape that resembles that of s/19 above. In the image from 1968—probably made from the same negative as that from 1954—the contrast and balance has been adjusted to produce a cleaner image, though at the cost of a stunning loss of detail: the accidental sign has all but disappeared. In the image from 2013, it can clearly be seen that what appears as a diamond shape in the 1954 facsimile, is in fact a set of four dots inscribed on the tangents of the quadrum.48

Signs with dots in their quadrum are examined in Chapter VII of this thesis; for the moment, I note that dotted signs—which I take to signal non-Pythagorean intonation—are first

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48 Image (a) taken from the facsimile of I-Pc C56 in Vecchi, *Uffici drammatici padovani*, f.16r.; image (b) from Gallo-Vecchi, *I più antichi*, Tav. CVIII.; image (c) is a private photograph taken at this author’s request by Prof. Anne Stone of the Graduate Center, City University of New York, in January of 2013.
seen in manuscripts originating in the Franco-Flemish region of Northern Europe. Their presence in a Venetian motet from c.1329-39, like the varying numbers of diagonal strokes in the *musicae coloratae* of *Ave / Mater / Ite*, indicates that there was a great deal of fluidity and cross-pollination in the writing of these signs.

In “Marchettus in Padua und die ‘franco-venetische’ Musik des frühen Trecento,” Gallo attributes *Ave corpus* to Marchetto, along with virtually every other known work of early Italian polyphony. There is no evidence, either external or internal, that suggests Marchetto did in fact compose *Ave corpus*, but there are similarities between the two motets—in particular, the first of their inflected progressions—that suggest that *Ave corpus* owes some debt to *Ave / innocencie / Ite*.

Fig.V.9 below shows the openings of both motets. In Marchetto’s, the *musica colorata* sign *a/1* produces a wide, non-Pythagorean second in the Triplum that lasts for two-thirds of the perfection and inflects the text: “Hail queen of heaven.” I read this progression and its microtonal infection as both a salutation to Mary and a acknowledgement of Mary’s saving grace, to which he appeals with his acrostic in the duplum.

The opening of *Ave corpus*, on the other hand, involves three solos that culminate in a tenth-to-twelfth progression with a doubled third. The highest voice (*C1*) is inflected by *musica colorata* (see Fig.V.7, *b/1* above). According to Gallo and von Fischer, the Ct is also inflected (by *c/11*), and it stands to reason that both it and the tenor would be inflected in the manner as *b/1*.

Of particular interest, then, is that the text inflected—*Ex-au-di*—exhorts the listener to pay close attention. And the question it raises—if *musica colorata* signals diesis at *a/1* in *Ave / innocencie / Ite*—does it do the same at *b/1* (*Exaudi*) in *Ave corpus*. 
V.9: Comparison of the Opening Measures of Ave / Mater / Ite to Ave corpus sanctum
Marce, Marcum imitaris is a three-voice Italian motet variously attributed to Jacapo da Bologna and to Francesco Landini. It is fourth on Margaret Bent’s list of Italian motets, but does not have a middle-voice tenor, and is not discussed in Newes’ article. It is addressed to a Venetian Doge, Marco Corner, and survives in fragmentary form in two manuscripts: I-MFA (the “Egidi” fragment, C2 only) and I-Gr 224 (olim 197). According to the Census Catalogue, the fragment at Grottaferrata was copied at the Benedictine Abbey of S. Giustina, Padua; this places it within the same geographic locale as Ave / Mater / Ite and Ave corpus. While the Grottaferrata fragment was copied c.1415, the motet itself must have been composed while Corner reigned during the years 1365-68.

Marce, Marcum is evidently the earliest Italian motet to have shed its dependence upon French models, yet it is connected to Ave / Mater / Ite and Ave corpus by its four signed accidentals, reproduced below in Fig.V.10 below.


50 Nos. 1-3 are Ave regina, Ave corpus, and the incomplete Cetus inseraphici, also from I-Vmg, which has no accidental inflections. See Bent, “The Fourteenth-Century Italian Motet,” 122.


— 100 —
The motet is a relatively long work (113 measures in transcription), but has only four signed inflections. They inflect only two progressions: a/c₅/e-D/d/f, and a/c₅/e-G/d/g, and there is none of the apparent pairing of inflection to text that was observed in Ave / Mater / Ite and Ave corpus sanctum above. But like Ave / Mater / Ite, all four signs are musicae coloratae, and all of them have a third diagonal stroke.

In Chapter VI, I suggest that the bisected quadrum, whether in a square-b or—based on the evidence of Ave / Mater / Ite—in a musica colorata, signals a quarter-tone. I hold that that is true here as well. If so, then it would seem that some fifty years after Marchetto’s dispute with the falsa musicisti, the influence of their theory was still being felt.

V.5 — Conclusion

Ave regina / Mater innocencie / Ite missa est “Joseph” is to the practical side of microtonal inflection what Lucidarium is to its theory: an extended demonstration. Of its eleven mi-fa inflections, ten are signed with musica colorata.

Its middle-voice tenor allows the counterpoint of Ave / Mater / Ite to pivot back and forth between two sonorities—a phenomenon seen in the later Ave corpus sanctum. Seven of the ten
progressions in Ave / Mater / Ite that are signed with musica colorata progress either to D or to G. An eleventh progression to D is unique, and perhaps also significant, because it is signed with what appears to be falsa musica. Was this a forced error, i.e., did the scribe leave himself too little room in which to fit musica colorata, with its very attenuated strokes? Or was this intentional?

There is also the question of what the varying number of diagonal strokes in the musicae coloratae signal. Marchetto’s argument against falsa musicisti is that the sign is rooted in geometry, and therefore is unable to indicate what Marchetto uses the elongated vertical stoke on the right to show, which is “perfection.” Yet here are musicae coloratae with one, two, and three diagonal strokes. Was this because as time passed, there was a commingling of falsa musica and musica colorata?

And finally, if it is true that Ave / Mater / Ite was written by Marchetto, why—given the importance of permutation to Marchetto—is there none in this, his only known motet?

Well, perhaps there is and we simply haven’t recognized it. Fig.V.11 below shows the penultimate inflection of the motet. In frame (a) is Gallo’s edition from PMFC xii, starting m.100, which is the beginning of perfection 34. An inflection (signed with a modern sharp) occurs in the triplum of m.101, and is anticipated by an editorial inflection in the tenor of m.100 whose purpose is to avoid chromatic motion in the following measure.

Chromatic motion, however, is exactly what Marchetto celebrates in Lucidarium; it is at the heart of his dispute with the falsa musicisti, whose sign signals diesis but not chroma. What’s more, it would occur in m.101 if only the editorial inflection at m.100 were removed.

Frame (b) of the example below shows that when the tenor responds to the inflection itself, rather than anticipating it, chromatic motion does occur:
Finally, there are four other places in *Ave regina / Mater innocencie / Ite missa est “Joseph”*? under the same circumstances as above,\(^{52}\) none of which is signed in Ob 112. Why? Because the tenor is notated in longae. Modus, tempus, and prolatio are all perfect in this motet and the simultaneous inflections necessary to produce chromatic motion occur on the second or third beat of each perfection. Indicating them in early fourteenth-century notation was not possible.

Perhaps in those early days of chromatic exploration, it wasn’t necessary.

* * * * *

*Ave corpus*, a Venetian ceremonial motet with both sacred and profane elements—the translation of the relics of St. Stephen to Venice, and the citation of the reigning Doge—is both simpler and more straightforward than *Ave / Mater / Ite*. Gallo attributed it to Marchetto, but there is none of the circumstantial evidence to show any connection of this motet to Marchetto that there is for *Ave / Mater / Ite*. Both motets employ a middle-voice tenor, but this may have already been a formal practice that the composers of both motets simply adopted, perhaps even from *Se grasse*, which uses the same tenor as *Ave / Mater / Ite*. Both motets are signed with *musica colorata*, though surely *Ave corpus* follows *Ave / Mater / Ite* both in date and in its signs.

\(^{52}\) These are: mm.46-47; m.60; m.66; and mm.112-113 in the PMFC edition.
The third of three polyphonic motets to use musica colorata, Marce Marcum imitaris is of interest for two reasons: the first is that it was almost certainly composed during the reign of the Doge it names (Marco Corner, 1365-68), and thus it shows Marchetto’s musica colorata sign in use some forty years after Lucidarium and Pomerium; its four inflections use a bisected musica colorata that is similar to that in Ave / Mater / Ite, and which again suggests that the influence of falsa musica endured long after Marchetto attempted to eradicate it.

In closing, this chapter supports the following two observations. First, there can hardly be any doubt that the musicae coloratae of Ave / Mater / Ite should be interpreted as indicating a non-Pythagorean semitone—though how to interpret the significance of the one-, two-, and three-stroke varieties is an open question. Secondly, the bisected musicae coloratae of both Ave regina and Marce Marcum imitaris suggest that the influence of falsa musica, which seems to have come before musica colorata and to have been tied to an enharmonic tradition that was older, and which continued to be felt throughout the fourteenth and into the early fifteenth century. While Marce Marcum imitaris was most likely composed in the 1360s, the fragment that transmits the C1 voice and its accidentals, was copied in Padua c.1415, nearly a century after Marchetto.
Chapter Six

The Three-Stroke Square-b (fals"a musica)

VI.1 — Introduction

Fig.VI.1: b-quadrati with Three Diagonal Strokes (a.k.a., fals"a musica)

I have already demonstrated in the Technical Forward the reasons to consider the three-stroke square-b as the notated version [♀] of the text icon of falsa musica [♀] illustrated in the M recension of Pomerium 4.17.2.¹ The intent of this chapter is to examine this sign as it was used in context.

Fig.VI.1 above illustrates seven of these signs, one each from the seven works examined herein: two from the MS Paris, Bibliothèque Nationale fn. fr. 571 (see Fig.VI.1.a-b above); two from the Las Huelgas codex (c-d); and three from manuscripts in the Chapter Library of the Cathedral of Durham, England (e-g).²

¹ The distinction between this text letter [♀], which I refer to as an icon, and the sign I believe it represents [♀] is discussed on pp.xxxvii-xxxix and illustrated in Figs.3-4 of the Technical Forward. See also Chapter IV, p.57 for the text of Pomerium 4.17.2, in which Marchetto explains that falsa musica is a square-b whose quadratum has been bisected.
² By sigla, these are: a) fr. 571, f.144r; b) fr. 571, f.144v-145r; c) Hu, ff.89r-90r; d) Hu ff.134r-136v; e) DRc 11, recto; f) DRc Com recto-verso; g) DRc 20, f2r.
This chapter will look for indications that these signs might have been used to inflect *diesis*, rather than the minor semitone.

Three of these seven works use the three-stroke square-b to inflect a pitch that at some other point in the music is also inflected by the normal two-stroke square-b, a circumstance I call “anomalous use.”

Taking Marchetto’s association in *Pomerium* of permutation with rhetoric, and his conviction that both exist to beautify the object they inflect, I ask whether any of the unusual signs under investigation in these seven works were signed with an intent, not just to inflect *diesis*, but in some way to call attention to the text so inflected as well.

The circumstances under which the signing of a normal square-b at a certain pitch and then at some other point an unusual square-b to inflect the same pitch, which might have been done for some specific purpose, are easiest to see in the motets *Ludowice / Servant regem / Rex regum* and *Qui secuuntur / Detractor est / Verbum iniquum* from fr. 571.

Both motets have already been noted and briefly discussed. In the present chapter, I observe that the only earlier recensions of these two motets are found in the Interpolated *Roman de Fauvel* (Paris, Bibliothèque Nationale fn. fr. 146), a manuscript dealing with the tumultuous political and social events that affected the French monarchy between approximately 1313 and 1317.

The circumstances of these motets as they were copied into fr. 571 are as follows: (a) they appear in a manuscript prepared in late 1326 for Edward of Chester, son of Edward II of England and Isabella of France; (b) Edward of Chester would become Edward III of England in January 1327, only a few months after fr. 571 was begun; and (c) the manuscript would not have

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3 See Part D. of the Introduction, *Pomerium* 4.16.1 for the Latin text and English translation of this very brief chapter.
4 *Ludowice / Servant / Rex* in Chapter III.3; *Qui / Detractor / Verbum* in Chapter I.2.
been created were it not for the marriage of Edward of Chester and Philippa of Hainaut—a
marriage that should be understood as wedding the royal families of England and France.

How then did two motets—both of which deal with upheaval in the French monarchy ten
years earlier, and whose texts describe certain persons and events in very unflattering language—
come to be included in MS fr. 571, a manuscript whose texts were meant to coach a young prince
in the duties of kingship, the responsibilities of which his mother knew were coming much
sooner than expected?

The answers require a listing of some of the the political and social events that came
before the marriage of Edward and Philippa in August 1326. These include: the longstanding
antipathy of the French towards the English on account of English possession of Aquitaine; the
practice of marriage as a means of medieval diplomacy; the marriage of Edward II to Isabella of
France, younger sister of Philip IV of France in 1308, and the period of relative peace between
England and France that followed this marriage; the increasingly hostile position that Edward II
adopted towards his French in-laws following the death of Philip IV in 1314; the isolation of
Isabella from Edward II in the years that followed and her decision in 1325 ultimately to leave
Edward and to take charge of arranging a marriage for her son, Edward of Chester.

* * * * *

Not yet mentioned, but just as important as the insertion of the two motets at the very end
of fr. 571, is the inclusion of a set of line drawings known as the Roman de Fauvain, which
illustrate the life of an evil mare named Fauvain.

The career of Fauvain is notably similar to that of Fauvel, and the drawings and their
captions mirror the texts of the two Fauvel motets in strikingly similar ways: in Qui / Detractor /
Verbum, a “smooth flatterer” deceives “kings, counts, princes, dukes”; this same person is also
accused of “openly robbing churches” and of “laying snares” and “lying in wait” to ambush the unsuspecting. In the line drawings, Fauvain gains the trust of important persons and then betrays them by stealing their wealth; she then conspires with accomplices to commit robbery, the act of conspiracy portrayed by a “drinking from the same cup.”

Perhaps most important for this discussion, she ambushes a figure identified as loyaute (i.e., Loyalty), whom she gleefully murders, and for which she is ultimately condemned to Hell. The issue of loyalty—and especially the consequences of failure to maintain bonds of loyalty—is central to the first motet, Ludowice / Servant / Rex, which ends with the stark reminder that a king is here today and gone tomorrow.

It is against this background that the texts of these two motets and the usual signs that inflect some of the most stark language in them should be considered—and not by using diesis in the context it might have been used in the thirteenth century, but instead by using it to highlight the criminal behavior of the character identified as the nequissima vulpis (i.e., most wicked fox).

Or to put this in context, if on account of the long presence of the enharmonic diesis in plainchant, this sign [♮] carried with it an association of righteousness and just behavior, then its use in the these two Fauvel motets to inflect words like “dechoit” (he deceives) and “grassari (to go about with thievish designs; to lie in wait) is to turn the use of this sign [♮] into an act of profanation.

* * * * *

It is against the background of these two motets that the other five works under consideration in this chapter should be heard. Though only the Kyrie and the troped Gloria are liturgical, all five of them are devotional, by which I mean their texts are sacred, not profane.
And I take the presence of the three-stroke square-b in each to invite the question of whether this sign [ bart ] inflects diesis.

I note also that to posit a connection between inflection and text in the Durham Gloria (Rex, etc.) and the conductus Flos de spina (verbum) as an explanation for why such and such a word is inflected with this sign [ bart ], rather than this [ h ], is to walk out onto thin ice. Proposing that this sign [ bart ] signals a non-Pythagorean inflection is already one-step removed from the evidence as it survives in Pomerium 4; to ask whether these two signs: [ bart ] and [ h ] were always understood in the fourteenth century as inflecting diesis and the minor semitone, respectively, may be equivalent to venturing out onto the thinnest ice.

Yet it may be still be worthwhile to give the suggestion an impartial hearing, before discarding the suggestion.

* * * * *

I raise the issue of a connection between text and inflection above by discussing the two Fauvel motets in fr. 571, not because they come first in this chapter—of seven works, they are fifth and sixth—but because they present the most plausible case for the possibility of a deliberate connection between text and inflection via diesis.

There is no equivalent case to be made in the five other works investigated here, all of which are devotional (Mundi dolens; Flos de spina; Jesu fili Dei / Ihesu lumen veritatis / Jesu fili virginis), if not also liturgical (Kyrie; Gloria Spiritus et alme).

It is impossible in these five works to demonstrate beyond reasonable doubt that there is a connection between text and inflection in the many places where I pose the question. Yet there are still places where the conjunction of an unusual accidental and the particular word it inflects might give us pause to reflect. Consider beats 61-63 in the Gloria Spiritus et alme, where the
forward motion slows by half at the words *domine deus rex celestis* as the music progresses \( d/f^{x_b} - c/g^c \). While *rex* (i.e., King) is certainly an important word—as well as an important concept to the medieval mind—it is not possible to rank its importance among all the rest of the important words in the text of the Gloria, of which there are a great many.

But the Gloria is a hymn to Christ, and apart from the opening greeting—Glory to God in the Highest and peace to men of good will—the object of the next three lines: we praise you, we bless you, we glorify you; we give thanks to you for your great glory, is the following: *domine deus rex celestis*—(lord God, *King* of Heaven). While one could argue that God is as important a word as King, it is *King* that is inflected with the three-stroke square-\( b \) in a context where suddenly the rhythm slows to beats under a single, monosyllabic word. Is this a coincidence?

* * * * *

There is a three-stroke *b-quadrati* in the **Hu** recension of *Mundi dolens* (c) which is one of only two signed inflections in this conductus-motet. The first inflection, signed with a normal square-\( b \), notes that the father, “whose judgement abides over the ordring of all things, pityingly sent his word to be made human … and gave it lodging in the **palace of the Virgin’s womb**.” The second inflects *virgines palacio*—the Virgin’s womb.

Mary is certainly not more important than God the Father, but this motet was very clearly written in praise of Mary. Is it a therefore also a coincidence that it is *virgines palacio* that is signed with an unusual square-\( b \), while God the Father is signed with a normal square-\( b \)?

The same may be asked of the **Hu** recension of *Flos de spina*, in which *Verbum Patris* is inflected with a three-stroke square-\( b \). In this text, the word of the Father is almighty, transforming the Old Testament testimony of the Prophet Elias into the New Testament prophecy of John the Baptist. The pair of three-stroke *b-quadrati* that are signed in **Hu** reflect both a
change of signature from one round-b to none, and perhaps also a non-diatonic inflection of the newly restored bmi. Again, is the use of the unusual sign just a coincidence?

* * * * *

Finally, there is the three-voice English motet with middle-voice tenor, *Iesu fili Dei* / *Ihesu fili virginis* / *Iesu lumen veritas*, the use of which places this motet in the company of *Ave* / *Mater* / *Ite* and *Ave corpus*. There is no apparent relationship between text and inflection here, but what is remarkable is that the same pitch: .b. is twice inflected with a three-stroke square-b followed by a four-stroke square-b; (only the former is shown in Fig.VI.1 above).

Does this signify a difference between the enharmonic *diesis* (assuming that this is what the three-stroke square-b inflects) and some different form of non-Pythagorean inflection?

The Berkeley MS describes a division of the tone into one-third and two-thirds parts. The scribe of the Berkeley MS uses the dotted square-b in connection with his text, though the relationship of the two parts is not clear.

The conclusion I came to after my critical reading of *Pomerium 4*, which is that if a medial diagonal stroke through the *quadratum* of the normal square-b indicates an interval half the width of the square-b (i.e., *diesis*), then perhaps two diagonal strokes indicates a division into three. This would clearly not be a division of the minor semitone into three parts, but a division of the tone itself into three parts. What this in turn might mean for *Jesu fili Dei* / *Ihesu lumen veritatis* / *Jesu fili virginis* is that two varieties of non-Pythagorean inflection are involved.

* * * * *

The Durham Kyrie, which is the simplest of all the seven pieces under consideration here—both in text, and in its repetitive structure—also poses one of the most difficult questions of this thesis: what to make of an inflection in which the triplum is signed with an unusual three-
stroke square-b, but the pitch a fourth below in the duplum that sounds with it is signed with a normal square-b?

VI.2 — The Durham Kyrie

The ninefold Kyrie in the manuscript Durham, Chapter Library, A.III.11 is copied on the verso of a single, fourteenth-century leaf that must originally have been the first folio of an important manuscript, for on the recto is an elaborately decorated, troped Kyrie in honor of Cuthbert, the Patron Saint of Durham. The very large initial capital on the recto indicates its importance, and the music thereon points to an origin in the Cathedral’s scriptorium. The dark green ink which was used on the initial capital “K” has burned through the parchment, and the resulting damage affects two of the signs of the ninefold Kyrie. These signs, along with repairs to the surrounding parchment are visible in the third of the five images in Fig.VI.2 below.

At some point in its history, this leaf was separated from its original manuscript, and now serves as flyleaf for an unrelated volume. In the process of being bound into the new manuscript, the original order of the leaf was reversed, so that what was once the recto is now the verso.

On the original verso (now the recto, and hereafter identified as such) are three textless, three-voice works notated in score. Reaney identifies each as a mass movement with a chant-based cantus firmus in the middle voice: a ninefold Kyrie (based on Vatican Kyrie I); a Sanctus and an Agnus Dei (both based on Vatican Mass XV).

The ninefold Kyrie is inflected with six \(b\)-quadrati. Of these six signs, three \((c/3; h/8; k/11)\) are of the normal, two-stroke variety, but a second set of three \((a/1; g/7; i/9)\) have a third diagonal stroke in their quadratum; (see Fig.VI.2 below, where the three-stroke signs are identified in the row immediately below the photograph, and the two-stroke signs, in the lowest

\[5\] RISM B/IV/2, 216.
row). Of this second group, the medial diagonals of two (a/1; g/7) are not parallel to the outer diagonal stokes, but instead angle upwards from bottom left to top right. Thus, while not identical to the illustration of falsa musica in Pomerium, the angled medial strokes suggest that these signs may also be a variant of falsa musica, and represent the same phenomenon.

The first of the unusual b-quadrati (a/1) inflects the progression D/a/f$^x$ - C/c/g at the opening of Kyrie I, while the first of the normal b-quadrati (c/3) inflects the ending of Kyrie I, D/f$^z$/bb - C/g/cc; (see Fig.VI.3 below). These two progressions seem almost paradigmatic: the first progresses tenth-to-twelfth and bears a close resemblance to Ex.9b in Lucidarium; the second, though it does not resemble any example from Lucidarium, observes the necessity to perfect the fourth between f and b by signing the Pythagorean square-b.
The next pair of accidentals, one unusual and one normal, present a more complicated situation (see Fig.VI.4 below). A three-stroke \textit{b-quadratum (g/7)} with an angled medial stroke in the triplum, and a normal two-stroke sign (h/8) in the duplum inflect the ending of the Christe; the progression, D/f^\#/bb^\chi - C/g/cc, is identical to that which ends Kyrie I, but the accidental sign g/7, if indeed it signals a \textit{diesis} between .bb. and .cc., is going to produce a non-diatonic fourth against h/8 in the duplum, and this dissonance is going to last a full perfection.

Because both of these accidentals are in that part of this leaf that has been damaged by the burning ink from the other side, and in particular, because the repairs (silk? rice paper?) to the manuscript render them difficult to see clearly, at my request they were examined under
ultraviolet light by Mr. Brian Crosby, Steward of the Chapter Library. His observations confirm what is visible in the third of the five images in Fig.VI.2 above: namely that \( g/7 \) has three strokes (the middle of which is not parallel to the outer two), while \( h/8 \) has just two.\(^6\)

This is problematic, since it would seem to indicate that there is no significant difference between these two signs. The fact that the signs are different, however, argues in the opposite direction. There may also be other factors at play which we cannot tell from the notation. Rather than speculate, I am going to assume non-Pythagorean intonation here: i.e., that the singer of the Duplum would sing a perfect fourth below the Triplum, however that singer tuned his pitch.

The last two \( b\)-quadrati are unusual and normal, respectively: \( i/9 \) occurs at the beginning of Kyrie II and therefore matches \( a/1 \), which occurs at the beginning of Kyrie I; \( k/11 \), on the other hand closes the first and second iterations of Kyrie II, and both the sign and the progression match those of \( c/3 \) which brings Kyrie I to a close.

The parallelism of these two parts of the whole, both of which open with a non-Pythagorean inflection at \( Kyrie \) and close with a Pythagorean inflection at \( eleison \), suggests something deliberate about the inflection of these two parts. It follows that the Christe might

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\(^6\) Personal communication, October 11, 2011.
vary, though whether the signs are an indication of this is not possible to tell. A second look back at Fig. VI.2 shows that all the signs in the Triplum are falsa musica; all those in the Duplum are b-quadrati. Perhaps all that can be said for the moment is that there is the appearance of an intent to shape the music using different inflections.

VI.3 — The Durham Gloria Spiritus et alme

VI.3.1 — Introduction

The two sides of this single, unfoliated leaf transmit a three-voice, troped Gloria, notated in score and dated to the second half of the fourteenth century. At some point in the sixteenth century, it was used as a wrapper for a non-musical manuscript. When this document was bound in the nineteenth century, the fourteenth-century leaf, still folded in half, became what is now the opening flyleaf.

The folio is English (possibly from Durham), and the setting is a harmonization of Sarum Gloria no. 9, with the plainchant in the middle voice. The music is inflected by twenty-four b-quadrati, of which twenty are the normal two-stroke variety; the remaining four have a third diagonal stroke in the middle. Of these four, three have a middle (or medial) diagonal stroke that is parallel to the outer two; the fourth has an oblique medial stroke similar to a/1 and g/7 of the ninefold Kyrie in GB-DRc MS A.III.11.

VI.3.2 — Text-Music Relationships

The connection between an unusual accidental, the text inflected, and the behavior of the music involved has, in those pieces examined so far, been tenuous. The clearest example of this

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7 GB-DRc MS Communar’s Cartulary; images and description of MS: https://diamm.ac.uk/sources/359/#; accessed September 10, 2017.
8 Ibid.
coincidence is the entrance of all the voices in mm.13-14 of *Ave corpus sanctum*, with its doubled non-Pythagorean leading tone, and its exhortation to listen (see Chapter V.3). The opening inflection of *Ave regina* would seem to qualify, but its texts are devotional, and it is impossible to stipulate why one word warrants being underscored, while another does not. What’s more, every inflection in *Ave regina*, save for one, is signed with *musica colorata*, and the exception is signed with *falsa musica*. If non-Pythagorean inflection was used as a means to call attention to the text, we need there to be some distinction between the especially important and the merely important before asserting a connection between the text and the inflection.

Of the four unusual signs in the Durham *Gloria*, the first inflects the beginning of the polyphony, starting with *et in terra*, and lasting through *adoramus te*, a distance of some 32 beats; the last of these four signs inflects the final *Amen*. The two in the middle, however, occur at particularly important moments in the text (see Fig.VI.8). Just as important, in both places the music does things that also seem correspond to an intent to highlight the text. An intent to match the music to the text seems evident in any number of places, such as when the music sinks to the lowest point in its tessitura at the words *peccata mundi*, or when the forward motion suddenly slows by half at the words *rex*, and later on, at *iesu christe*. The first of these is inflected; the second is not, and it would appear here that non-Pythagorean inflections were just of a series of tools the composer—or composers—of this *Gloria* used to breathe life and interest into this text which they chanted every day of their lives.

**VI.3.3 — Layout of the Music and its Signature Accidentals**

The text of the Gloria is lengthy, and because this Gloria is troped, it is particularly long. In the source, the notation is laid out in four systems of three staves each, on both recto and
verso; only the lowest voice is texted. At the beginning of every system a signature $b$-quadratum inflects fmi in Voice I. Voices II and III are unsigned.

In my edition, a full stroke through each stave divides the text of the Gloria and its trope *Spiritus et alme* into nineteen parts. There are mensuration signs in effect throughout that divide the breve (quarter note in the edition) into two or three semibreves; the semibreve is always triple. Of these nineteen parts, only seven divide evenly into groups of two or three breves, suggesting that the mensuration functions primarily at the level of breve-to-semibreve. In respect of this, the music is transcribed in sections, not measures; every fifth breve is numbered.

The chant is in mode seven, and is set in the middle line; the prevailing tonality of the polyphony is G. The top voice, which carries an fmi signature throughout, is the functional cantus; the lower two voices function alternately as the contrapuntal tenor (i.e., as opposed to the chant tenor). Because neither lower voice has a signature, the inflection of F/f and c in both voices is in constant flux—often alternating between fa and mi with only a note or two between.

None of the voices is named in the manuscript; in the transcription, they have been labeled (in descending order): I, II, and III. The range of the individual voices is generally an octave plus a note or two. At no point does the spread between lowest and highest sounding voices exceed a twelfth. For the most part, the three voices stay within a fairly narrow compass, moving in chains of fifths and sixths that expand to the octave at cadences.

The polyphony is characterized by a constant motion from imperfect to perfect consonance. Because all resolutions at the end of text sections are in breves, resolve to G, and

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9 The nineteenth division is a partial stroke, and therefore a rest—the only such rest in the entire Gloria. The full strokes would therefore seem to be akin to bar lines, and not to have mensural significance.

10 In all other transcriptions of this study, measure numbers appear below the lowest staff; to distinguish beat from measure numbers, they are placed above the highest staff.

11 The nineteen cadences at section endings are always to G, and there are another twelve internal cadences within phrases.
typically progress [a/cmi/fmi – G/d/g], these moments have both a motion and a sound that we hear as cadential. This effect is further augmented by a doubled leading tone in one of the other voices. Of nineteen closes at the end of sections, fourteen have a doubled leading tone; another thirteen such progressions occur in the midst of text sections.

Given that the text of the Gloria is one long recitation, it is not proper to think of these internal progressions as cadential; even those end-of-section progressions that have all the hallmarks of cadence are better thought of as simply a chance to breathe before moving on. This, coupled with the fact that the counterpoint is constantly progressing to or away from G, gives the music a certain unbroken, repetitive, almost monotonous, quality. Yet the music displays a considerable variety of invention, despite—or perhaps because of—its constraints: juxtaposition of F and G tonalities; changes in mensuration from duple to triple; extremes of range; unusual species of intonation. By utilizing these elements, singly or in combination, the composers were able to keep the polyphony vibrant and interesting.12

VI.3.4 — Juxtaposition of F and G Tonalities

Conflicts between the signed fmi in Voice I, and the uninflected Ffa in Voices II-III occur throughout the music. In Fig.VI.6 below, an F sonority [F/c/aa] progresses to a G sonority [G/g/d] via [a/cmi/fmi] in the space of three beats (16-18). The cross relations between cfa and cmi in Voice II and between Ffa in Voice III and fmi in Voice I are distinctly audible, and are part of the aesthetic of this music. The chromatic motion of cfa to cmi in Voice II, moreover, while it is not direct, recalls Marchetto’s examples of chromaticism in Lucidarium.

VI.3.5 — Examples and Discussion

12 By “composers,” I do not mean that the music was composed in the modern sense: the chant was already extant, and the score that survives in Durham is probably a notated version of something that began long before as an improvisation involving several singers.
The full impact of the Durham *Gloria* can only be appreciated by study of the entire score; in what follows, I examine nine places in the music where text-music-inflectional relationships seem deliberate, and which in at least two places, a three-stroke square-b signals the inflection.

**Fig.VI.6: *Et in terra … adoramus te* (beats 1-32)**

1. *Et in terra … adoramus te* (Fig.VI.6): The longest uninterrupted stretch in which non-Pythagorean intonation is indicated begins at beat 1 (with three-stroke square-b a/1) and lasts until beat 32 (when the two-stroke square-b b/2 ends it and c/3 confirms it); non-Pythagorean intonation is contrapuntally possible throughout this passage, the text of which is the opening acclamation of peace and the collective praising, blessing, and adoration of God by his people. Is non-Pythagorean intonation used here to highlight this text?\(^\text{13}\)

\[^{13}\] The contrast in intonation between the monophonic incipit *Gloria in excelsis Deo* and the start of the polyphony recalls the opening of *Ave corpus sanctum*. 

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2. *Gracias agimus tibi* (Fig.VI.7): Of the many F-G juxtapositions, this instance is unlike any other. At beat 40, signed *b-rotundi* [d/4; e/5] pull *a-gi-mus* out of G and into F; at beat 42 (*tibi*), signed *b-quadrati* [f/6; g/7] restore G. Most F-G juxtapositions in this *Gloria* do not involve signed accidentals, yet at *agimus*, four are needed. Did the composer wish to especially highlight this moment? If so, is there any connection between the action of giving thanks (“*Gracias agimus tibi* [thanks we give to you]”) and the lowering of f and c to their recta pitches?¹⁴

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¹⁴ This reasoning, however, would not explain the *b-rotundum* or the low tessitura at *gloriam*, seven beats later.
3. *Rex* (Fig.VI.8): The longest duration of any single syllable occurs in the passage *domine deus rex celestis*. The prevailing rhythm here is primarily semibreves carrying one syllable per note. At beat 61, that rhythm slows noticeably: *rex* is set to a three-breve ligature that culminates in a progression to [c/g/cc]. Of note is the accidental that inflects fmi in Voice II is a three-stroke square-b (k/11) whose angled medial stroke recalls the illustration of *falsa musica* in *Pomerium*. And because in this work, there are three-stroke *b-quadrati* with parallel medial strokes (see a/1 above; vi/22 and ii/35 below) and just this one angled medial stroke, the question arises whether there was an intention to highlight the word “King” with a narrower interval and a slowing in the rhythm and text?

![Fig.VI.9: unigenite iesu ... peccata mundi ... iesu christe](image)

4. *Iesu christe* (Fig.VI.9a): The longest sequence of breves in a row occurs at *unige-ni-te ie-su chris-te*. No inflections are signed—and there are none in the following two occurrences, either—but as in *Rex* (see Fig.VI.8 above), where the forward motion slows at the invocation of “King,” here the name of Jesus is similarly underscored. Presumably, the slowing of pace reflects the solemnity of the text. Voice I is under an fmi signature throughout, but here the leading tone is in Voice III (the lowest of the three voices) and is not signed.

5. *Peccata mundi* (Fig.VI.9b): The lowest sonority occurs as Voice I descends to the bottom of its range at the words *peccata mundi*. The connection between the low tessitura and the text (“sins of the world”) is obvious. This moment is unique.
6. *Iesu christe* (Fig.VI.9c): The second longest sequence of breves in a row also involves the name of Jesus. Here the word *christe* is set to the longest, most prepared cadence in the Gloria. While the text sequence in which this occurs (*tu solis altissimus ... gloria dei patris*, beats 222 to beat 254) is a single idea that cannot be interrupted, either semantically or musically, the rhythmic lengthening at *Christe* suggests that the name of Jesus is to be venerated.

![Fig.VI.10: *Dei filius* (beats 100-114)](image)

7. *Dei filius* (Fig.VI.10): The highest sonority of the Gloria (e/g/cc) occurs at beat 112, when all three voices ascend to their upper ranges, starting with the spectacular run in Voice III from the low Fmi at *agnus* to the high g at *Dei filius*. The parallel up-and-down sweep of all three voices sets the text “lamb of God, son of the Father.” One might expect a non-Pythgorean interval at o/15, but the sign is a normal two-stroke square-b.
8. *Miserere nobis* (Fig.VI.11): An unusual dissonance involving non-Pythagorean intervals occurs at *miserere*. The progression crests on the second half of beat 191 with cc in Voice I, but instead of arriving at \([c/g/cc]\) (as does the similar progression at *deprecacionem*, beat 167), the sonority at b.191 is \([a/f^x/cc]\), and the resolution to \([G/g/bb]\) occurs on the next beat. The tuning of \([a/f^x/cc]\), already complicated by the diminished fifth between Voices I and II, is further complicated by the three-stroke *b-quadratum* (v/22) inflecting \(f^x\) in Voice II. The diminished fifth could be avoided by raising cc to match \(f^x\) (i.e., \(f^x-cc^x\)), but at the cost of a wider-than-normal tone between \(cc^x\) and bb on the following beat. Either way, a dissonance is going to be audible across bb.191-92. Given the text (“you who sit at the right hand of the father, *be merciful* to us”), is the dissonance connected to the plea for mercy?
9. *Patris. Amen.* (262-266). The last of the three-stroke *b-quadrati*, ii\textsuperscript{35} inflects the close at *Cum sancto spiritu in gloria pa-tris* (beats 244-55). While the inflection itself is very brief, it is immediately followed by a three beat rest that would allow its sound to echo in the moment of silence. A difficult to answer question is whether fmi should be inflected normally thereafter, as jj/36 in Voice III establishes, albeit some five beats later.

**VI.4 — Mundi dolens**

**IVI.4.1 — The Accidentals**

*Mundi dolens*—E-BULh MS Las Huelgas, ff.89r-90r—is a three-voice conductus-motet based on an unidentified tenor; the Las Huelgas codex is its only source.\textsuperscript{15}

\textsuperscript{15} RISM B/IV/1, 225; modern editions in: *El Còdex Musical de Las Huelgas: Música a Veus dels Segles XIII-XIV*, ed. Higini Anglès, 3 vols. (Barcelona: Institut d’Estudis Catalans-Biblioteca de Catalunya, 1931. Facsimile reprint,
In its forty-three measures, there are only two signed accidentals. The first is a two-stroke
\textit{b-quadratum (a/1)} that corrects a vertical mi-contra-fa situation. The second is a three-stroke
\textit{b-quadratum (b/2)} that inflects a brief motion from imperfect to perfect consonance.

Significantly, both inflect fmi; (see Fig.VI.13 above).
The most recent study of the Las Huelgas codex (hereafter Hu) dates the manuscript to c.1318-25.\(^\text{16}\) It was copied, evidently, by a single scribe and—with all but a few late additions in a second hand—in the order in which the manuscript survives.\(^\text{17}\) Its dates of compilation make it the earliest extant musical manuscript with secure dates to employ unusual accidentals, and its use of \textit{musica colorata}—as well as its unusual \textit{b-quadrati}—connect it to Marchetto’s \textit{Lucidarium} and \textit{Pomerium}.\(^\text{18}\) Hu contains a wider variety of accidental shapes than any other manuscript in this study, and given their considerable variety—two- and three-stroke \textit{b-quadrati}; \textit{musica colorata}; and a few signs whose shapes defy easy categorization and whose significance is unclear—the accidentals of Hu deserve a study of their own.

While its accidentals reflect the manuscript’s early fourteenth-century provenance, they inflect a repertory that is predominately thirteenth century in origin. Both \textit{Mundi dolens} (Hu 87) and \textit{Flos de spina} (Hu 147) employ the three-stroke \textit{b-quadratum}, and given this sign’s association with non-Pythagorean intonation, they raise the question of whether the use of microtones was a phenomenon whose roots reach back into the thirteenth century.

The first of two signed accidentals in \textit{Mundi dolens}, \textit{a/1} is a large and very square \textit{b-quadratum} that perfects the first of five \textit{mi-contra-fa} sonorities that occur during the course of the music. Interestingly, none of the subsequent \textit{mi-contra-fa} sonorities is inflected with a signed accidental, suggesting that the presence of \textit{a/1} was sufficient to indicate the perfection of the remaining diminished fifths—a kind of signature, though not in the modern sense.\(^\text{19}\) These five

\(^{16}\) Nicolas Bell, \textit{The Las Huelgas Music Codex: A Companion Study to the Facsimile} (Madrid: Testimonio Compania Editorial, 2003).

\(^{17}\) For the probable dates of compilation, see ibid., 36-37. At some point in its history, the manuscript was rebound or repaired, and the order of the final two quinions was scrambled upon reassembly. For the original order, see ibid., 22-23; Bell notes that the re-orderings given in both the 1980 and 2001 editions of the \textit{New Grove} are inaccurate.

\(^{18}\) There is one unmistakable instance of \textit{musica colorata} in the Las Hulgas codex—the monophonic conductus \textit{In hoc ortus}, not discussed here; the Las Huelgas recension of the \textit{Credo} from the \textit{Mass of Tournai} (Hu 176), moreover, has a series of accidental signs that border on being \textit{musicae coloratae}.

\(^{19}\) Following \textit{a/1}, diminished fifths requiring the inflection of fmi occur in mm. 4, 18, 24 and 25.
diminished fifths occur, always on the second long beat of a two-beat (editorial) measure, as bmi sounds in both tenor and duplum. Because inflecting bfa is not possible in any of the sonorities, the fifth is perfected by inflecting fmi. In other words, all five are \textit{causa necessitatis} inflections, typical of the three-voice polyphony of the late thirteenth century.

The second signed accidental also inflects fmi, but \textit{b/2} is a three-stroke \textit{b-quadratum}. For reasons that are not clear, it is inscribed a third too high. Like \textit{a/1}, it is also completely “square,” and is the only three-stroke \textit{b-quadratum} I know of to have been drawn like this—all the rest have angled diagonal strokes. The extremely long descending stroke on the right is also unique.

It is unlike \textit{a/1} in that the inflection is \textit{causa pulchritudinis}. Does \textit{b/2} therefore indicate non-Pythagorean intonation? The inflection (third to fifth: \textit{d/f – c/g}), while brief, would certainly allow for it, and there is no pitch a fifth away that would require fmi-g to be a Pythagorean semitone. More difficult to know is whether the non-Pythagorean intonation persists through the next measure. There is a bmi in both tenor and duplum in the second half of measure 17, and if the fmi in the triplum is tuned \textit{f x}, the intonation of bmi in the tenor and duplum would have to be similarly raised; i.e., from bmi to \textit{b x}.

Before dismissing this situation as impossible, or perhaps simply unthinkable, we should reserve judgement until after considering Hu 147, the two-voice conductus \textit{Flos de spina}, in which the presence of a pair of signature three-stroke \textit{b-quadrati} suggest the possibility of a contrasting middle section in a non-standard intonation.

\textbf{VI.4.2 — Signs of the Ars nova in Mundi dolens?}

The tenor of \textit{Mundi dolens} appears to consist of two identical statements, but it doesn’t—it is through-composed. In Fig.VI.14 below, the two halves of the tenor are aligned. While the first twelve measures of each half are identical, problems arise in mm. 13/34 and
continue to the conclusion of the music. In the example, dashed arrows indicate a mismatch of pitch on weak beats; solid arrows, on strong beats.

The G/a conflict between mm. 13/34 may be scribal error, but thereafter the two halves consistently do not line up. What appears to have begun as a repeating tenor strikes off in a different direction at measure 14. What is the significance of this?

There are three places in *Mundi dolens* where two bmi-fmi sonorities occur—always on the second beat—in a pair of consecutive measures. Fig.VI.15 below illustrates each place.

At A and C, the tenor progressions (a-c-bmi; a-c-bmi) are identical, and the music of the motetus and triplum are all-but-identical. A glance at Fig.VI.15 above shows that these four measures line up vertically. At B, however, the tenor progresses c-e-bmi; a-c-bmi. The difference in the tenor is only one note, but the sonority above it (G/c/g) sounds and functions in
a way that is completely unlike the beginning sonorities of mm. 3 and 24 (a/e). In the context of the G sonority in the first beat of measure 17, the tenor c functions as suspension, and does not resolve until the second beat. None of what happens in mm. 3 and 24 approaches anything like the force that is generated on beat one of measure 17. Moreover, this suspension is prepared by the tenor (F-G-a) of measure 16 and the brief but pungent interval d-f that is inflected by b/2. And it requires a different tenor progression than is found in mm. 2 and 23 (G-F-G). It is in light of the need to prepare different music for mm. 16-17 that the change to the tenor beginning measure 14 should be viewed. And of course, if b/2 pulls the last breve of measure 16 and possibly all of measure 17 into a different tuning system—literally a quartertone higher than the surrounding music—then not only has this moment been carefully prepared, but it must also be particularly important, since there is no other place like it in the rest of the music. What is it about this place in the music that is so important?

**VI.4.3 — Conclusion**

The text of *Mundi dolens* speaks of God sending his word (Jesus) to dwell in the “palace of the virgin’s womb.” It is this text (i.e., *virgines palacio*) that spans mm. 16-17.

<table>
<thead>
<tr>
<th>Fig.VI.16: The Text of Mundi dolens</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mundi dolens de iactura patris miseracio</td>
</tr>
<tr>
<td>cuius manet sub censura rerum disposicio</td>
</tr>
<tr>
<td>verbum misit humanari gabriele previo</td>
</tr>
<tr>
<td>et in ventris hospitari virgines palacio.</td>
</tr>
<tr>
<td>intrat deus exit idem carnis tectus pallio clausa manet clausa pridem virginalis mansio. quod sic virgo fecundatur admiratur racio nam illesa conservatur sicut vitrum radio. Soli deo reservatur ipsius ingressio sed pro certo nobis datur quod fuit egressio.</td>
</tr>
</tbody>
</table>

*God enters in and comes forth still God, covered in a cloak of flesh; the virginal dwelling remains sealed. Reason marvels that a virgin can be made pregnant so; for she is preserved intact, like glass pierced by the sun’s rays, The entering into her is kept for God alone; but it is for us, surely, that his coming forth from her is given.*
For a conductus-motet copied into a manuscript that was prepared for a Cistercian convent dedicated to the Virgin, it is understandable that these words might have invited special treatment. Perhaps another reason for the special treatment of these two measures: the Golden Section of the music falls at the juncture of mm.16-17.

**VI.5.1 — Flos de spina**

The two-voice conductus *Flos de spina procreatur* (Hu no. 147, ff.134r-136v)\(^{20}\) is the oldest piece of music in this study to employ unusual accidental signs.\(^{21}\) A pair of three-stroke \(b\)-*quadrati* are clearly visible in the second system of f.136r; (see Fig.VI.17 below)

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21 The oldest recension of *Flos de spina* is found in the Florence *Magnus liber*, I-Fl Pluteus 29.1, ff.304v-305v.
The text of *Flos de spina* is a strophic poem in four stanzas praising the Virgin Mary, Christ, and the Old Testament prophet Heliseus. The initial capital “H” (for Helesius) in the figure above marks the beginning of the fourth stanza.\(^\text{22}\)

In addition to the recension in Hu, there are four earlier recensions of *Flos de spina*, all from the thirteenth century: Wolfenbüttel, Herzog August Bibliothek, Guelf. 628 Helmst. (hereafter, \(W_1\)); Florence, Biblioteca Medicea Laurenziana, Pluteus 29.1 (F); Madrid, Biblioteca Nacional 20486 (Ma); and St Gall Stiftsbibliothek MS 383.\(^\text{23}\)

While the two earliest recensions of *Flos de spina* (\(W_1\) and F) were made in the 1240s, the music itself is older than the sources in which it is transmitted.\(^\text{24}\) And while there are no unusual accidental signs in any of the thirteenth century sources, there is a hint of problems involving the inflection of certain semitones that will be discussed below.

Given its *Ars antiqua* provenance, *Flos de spina procreatur* seems like an unlikely candidate for the kind of imperfect-to-perfect progressions Marchetto illustrates in *Lucidarium*. Yet the Las Huelgas recension employs a pair of three-stroke signature *b-quadrati* that potentially inflect a non-Pythagorean bmi-cfa semitone over a span of music that lasts for twenty-eight measures, and involves fifteen bmi-cfa semitones.

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\(^\text{23}\) \(W_1\) is probably the oldest extant *Magnus liber* (“compiled c1240”), followed by F (“most probably written in Paris in the 1240s”) and \(W_2\) (”probably Parisian, middle of thirteenth century”); Ma is believed to have been copied in Toledo in the “middle or third quarter of thirteenth century”; see “Sources MS,” *The New Grove*, 23:872-73 for more on these MSS.

There is a fifth source of *Flos de spina procreatur* in a manuscript in Innsbruck, Austria (Universitätsbibliothek MS 457), but unfortunately there is neither microfilm nor photographic facsimile available. For details of this manuscript, see RISM B/IV/2, 333-35.

\(^\text{24}\) “All of the manuscripts are late; the earliest, LoA and F, were not copied before the late 1220s and the mid thirteenth century respectively—several decades after the creation of the repertory the contain.” Edward H. Roesner: “The Problem of Chronology in the Transmission of Organum Duplum” in *Music in Medieval and Early Modern Europe: Patronage, Sources, and Texts*, ed. Iain Fenlon, New York: Cambridge University Press, 1981: 365–90.
On folio 136r of Hu, two unusual three-stroke $b$-$quadrati$ cancel a one-flat signature that has been in effect since the previous system. Unlike the truly “square” $b$-$quadrati$ in Mundi dolens, the diagonal strokes of these $b$-$quadrati$ are angled upwards, left-to-right, so that one can distinguish their medial strokes from the staff lines they cross. These signs are also inscribed so that only the lower half of their bisected quadratum occupies the space for bmi. This is suggestive of the argument Marchetto attributes to the falsa musicisti in Pomerium: that if the “square” of the normal two-stroke $b$-$quadratum$ represents limma, then half this “square” represents diesis. Were these three-stroke $b$-$quadrati$ so placed as to indicate a very narrow bmi-cfa semitone?

If these signs are a form of falsa musica, they would microtonally inflect fifteen instances of bmi between measures 130 and 158, when the next signature change occurs; see Fig.VI.18 below, in which each instance is indicated by a capital letter within a square enclosure.

Assuming that the semitone between bmi and cfa is narrowed by these signs, the step between are and bmi must be widened accordingly. In eleven places where the signature inflects

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25 See Fig.VI.17, col. A, middle of the second system.
26 That the two $b$-rotundi on the first system of f.136r constitute a signature is affirmed by their having been re-signed at the head of the second system.
27 See Chapter IV.2.
bmi (A-F, I-L, N), there is no contrapuntal reason why the bmi-cfa semitone could not be
narrowed and the tone between are and bmi widened. In four places, however (G, H, M, O),
there will be contrapuntal conflicts. At letter G—perhaps the worst of these—the augmented
fifth is avoidable by raising Emi to the same degree as bmi, but doing so creates problems with
the intonation of are: if the wide tone is part of this aesthetic and the pitch of are is inflexible,
then it will sound a diminished fourth—albeit briefly—against E. Inflecting are so that it forms a
perfect fourth with E would shift the wide tone to are-gsolreut. Similar problems occur at
letter M.28

It is possible that at these four places, bmi was inflected according to the norms of
Pythagorean intonation.29 By doing so, the problem of a perfect fifth followed by a diminished
fourth (or, an augmented fifth followed by a perfect fourth) would be avoided. In other words,
microtonal intonation might be used in those eleven places where it is unproblematic, and
Pythagorean intonation used in the four places where it is. If Flos de spina were an unicum like
Mundi dolens, I would have to close by noting the degree of speculation in the above. But there
is some indication in the earlier recensions of Flos de spina that certain semitones are
problematic.

In Hu, Ma, Fl and W₁, the first three stanzas are essentially identical: the first two stanzas
(mm. 1-72) cadence to G and are not under signature; the third stanza (mm. 73-113) is under a
one-flat signature, but still closes to G. At measure 114, (the beginning of the fourth stanza), the
music of the Hu recension is transposed down a fourth to D.

28 The problems at M are almost the reverse of those at G: to avoid an augmented fifth, the pitch of Emi would have
to be raised in advance; the pitch of are would still be a problem.
29 That the singers could have negotiated such rapid fluctuations in pitch is suggested by the motet Iesu fili / Ihesu
fili veritatis / Iesu lumen, where three- and four-stroke b-quadrati inflect the same pitch in short order; see Chapter
VI.7. and Fig.VI.31.
Fig.VI.19 below shows the beginning of System 1, f.136r of Hu. The one-flat signature that has governed most of the previous folio is canceled (see Fig.VI.19., f.135v, System 3; [mm.102-113]). The result is that, in relation to the other sources of *Flos de spina* (W₁, Fl, and Ma), the Hu recension is transposed down a fourth from this point to the conclusion of the music.

**Fig.VI.19: The Transposition Down a Fourth at mm.113-114**

<table>
<thead>
<tr>
<th>a) f.136r, system 1</th>
<th>b) f.135v, System 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>clefs indicate a no-flat signature;</td>
<td>one-flat signature in effect throughout this system;</td>
</tr>
<tr>
<td>music starts (D/d) and ends on D/D</td>
<td>music closes on G/G</td>
</tr>
</tbody>
</table>

Why this transposition was made, and what its purpose might have been, will be examined below. For the moment, it is important to note that in all four sources, accidentals and signatures come into and out of play in ways that do not correspond to modern convention and are difficult or impossible to accurately represent in modern notation. An example of accidentals seemingly disappearing “without a trace” is illustrated in Fig.VI.20 below.

In the Madrid recension, a one-flat signature is in effect at the beginning of the first system of f.76r (Fig.VI.20a; [m.120]). Three measures later, a second pair of flats come into effect during the melisma on *incur-va-tur*, [m.123]. When the music reverts to a one-flat signature at *Ver-bum patris* [m.130]), there are no *b-quadrati* to cancel the efa flats that came
into effect in measure 123; neither is the signature at the beginning of the system repeated. It is not until the following system (Fig.VI.20b; [m.131]) that it is possible to confirm the change of signature.\footnote{W₁, Fl, and Ma are under a one-flat signature at m.119, whereas Hu has already been transposed down, and has no signature at this point. The change of signature puts W₁, Fl, and Ma under a two-flat signature across mm.120-123; in the Hu recension, the change is from no flats to one-flat.}

**Fig.VI.20: An Unsigned Change of Signature in Ma**

<table>
<thead>
<tr>
<th>a) Ma, f.76r sys.1</th>
<th>b) Ma, f.76r sys.2</th>
</tr>
</thead>
<tbody>
<tr>
<td>chg. from 1-flat to 2-flat signature (m.123); unsigned chg. to 1-flat sig. (m.130)</td>
<td>change of sig. confirmed (m.131: )</td>
</tr>
</tbody>
</table>

At this same place in both the Hu and Fl recensions (Figs.VI.21a-b), canceling accidentals are signed. Nevertheless, there is something unusual about both sets. In Hu, these accidentals are the three-stroke \textit{b-quadrati} in Voices I and II (Fig.VI.21a [m.130]). In Fl, a canceling two-stroke \textit{b-quadratum} is signed in Voice I, followed immediately by a faint \textit{b-rotundum} in the space for ffa. There is no canceling sign in Voice II.
While the absence of canceling accidentals at m.114 in Hu may be due in part to the fact that the clefs come at the start of a new folio and system, the signing of canceling accidentals at measure 130 is unusual for two reasons. The first is that in W₁ and Ma, there are no canceling accidentals at all, and in Fl, none in Voice II.

The second is the fact that the accidentals in Hu are three-stroke *b-quadrati*, which are unusual *per se*. These accidentals suggest not only the canceling of the *b-rotundi* at mm.121-123, but also a possible change of intonation to a very narrow semitone between bmi and cfa, and a correspondingly wide tone between are and bmi. Their presence raises the question of what they are doing in a conductus that could easily have been one hundred years old at the time it was copied into Hu, and whose counterpoint was vastly different from that which Marchetto was theorizing about in *Lucidarium*.

The two-stroke *b-quadratum* in the Fl recension, which is immediately followed by a *b-rotundum*, suggests something unstable about the pitch of emi. While Fl is the only other recension of *Flos de spina* with a canceling accidental at measure 130 (and only in Voice I), the
signature does change here, and its two-stroke \textit{b-quadratum} is not in error. More curious is the \textit{b-rotundum} which, though it is faint, does not appear to have been erased.\textsuperscript{31} Even more so is why it is signed in the space for f, when the corresponding efa \textit{b-rotundum} in the signature clearly straddles the staff line.

Is it possible that both signs are in effect, and that the intended pitch is neither the emi nor the ffa of the recta gamut? It should be kept in mind that this place in Fl is a fourth higher than the same place in Hu that is inflected by the three-stroke \textit{b-quadrati}. While this doesn’t explain the transposition in Hu, it does strengthen the notion that something unusual involving intonation occurs at this moment.

And there is a further indication that accurately notating the pitch of b in this conductus may have been problematic. In all four sources there is change of signature at measure 158 (from no-flats to one in Hu; and from one-flat to two in W\textsubscript{1}, Fl, and Ma). In Hu, the \textit{b-rotundi} clearly cancel the three-stroke \textit{b-quadrati}. While there is no way to know whether the non-Pythagorean intonation indicated in measure 130 extends all the way to measure 158 (see Fig.VI.22 below), if it did, the new signature would certainly signal the end of it.

\textsuperscript{31} In neither the natural light nor the ultraviolet images available online are there any signs of scraping, etc. commonly associated with erasing a mistake on parchment.
At measure 137 in the Fl and Ma recensions, there is disagreement about the inflection of bb. In Fl, the scribe has changed clefs (from C3 to C2) to avoid having to use a ledger line to notate bbfa. In the process, he re-signs the bfa signature, and also takes the unusual step of signing a cautionary accidental to the bbfa an octave above; (see Fig.VI.23a [m.137] below). At the same place in Ma, however, there is a *b-quadratum*; (Fig.VI.23b). This sign appears to cancel the previous signature flat, but given the necessity of bfa in both voices throughout, it more likely indicates a single alteration. What, however, is being altered? The accidental is signed immediately before a b/bb octave, and if it inflects Voice I, it would presumably inflect Voice II as well. Given the constant one- or two-flat signatures in the Ma recension, a bmi/bbmi octave here seems like a very unlikely sonority, but the fact that Fl is so explicitly marked—albeit, with the opposite sign—suggests that here, too, was some phenomenon for which the notation was inadequate.

This confusion at the half-step recalls the research of Manuel Pedro Ferreira, who, in tracing the copying of the eleventh-century Cluny gradual—a manuscript in staffless neumes—to
manuscripts in staff notation a century later, repeatedly found that scribes had great difficulty transcribing pitches a semitone apart. This, coupled with his discovery of special microtonal neumes in the Cluny gradual, led to his demonstration and conclusion that microtonality was part of the early practice of Gregorian chant.\(^{32}\) I will return to this idea in a moment, but for the present, it is worth noting that the transposition of Hu moves bb to f, instead. What is more, the lack of a plica—present in all other recensions—eliminates any half-step immediately below; (Fig.VI.23c [m.137] below). The transposition, of course, may ultimately have been to move the bb to a more comfortable pitch, but the notational discrepancies in Fl and Ma suggest that the change may have solved some other problem as well.

![Fig.VI.23: Another Location with a Problematic Semitone?](image)

To date, I have not found a monophonic version of *Flos de spina*, nor do I know whether one ever existed. The text is extra-liturgical, and therefore neither proper to Mass nor Daily Office. Nevertheless, the unusual *b-quadrati* of the Las Huelgas recension and the curious behavior of certain accidentals in the Florence and Madrid recensions raise the possibility that a

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\(^{32}\) An example of Ferreira’s methodology for isolating these problematic pitches is discussed in Chapter I.1 and illustrated in Fig.I.2.
microtonal, monophonic melody became one of the voices of a two-voice conductus that found its way into the *Magnus liber* tradition. If so, *Flos de spina* would be the earliest example so far known in which the use of microtones jumped from monophony to polyphony.

**VI.6 — fr. 571 and The Marriage of Edward III to Philippa of Hainaut**

**VI.6.1 — Introduction and Background**


In fr.146, these two motets use only the traditional two-stroke *b-quadratum*. In their fr. 571 recensions, they employ both the two- and the three-stroke *b-quadratum*. The three-stroke *b-quadrati* employed in fr.571 also closely match those in *Flos de spina* (from the Las Huelgas manuscript) and those of the mid-century *Gloria* (from the Durham *Communar’s Cartulary*).

Before moving on, it is important to note that the presence of unusual accidentals in four of these five near-contemporaneous manuscripts—*Lucidarium* and *Pomerium* (c.1317-19); fr.146 (c.1317-20); Hu (c.1318-25); and fr.571 (1326-27)—and the physical distances that separate their places of origin, point to a use of unusual accidentals that was widespread by the third decade of the fourteenth century.

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33 In fr.571, they are found on ff.144v and 145r-v; in fr.146, on f.10v-11r and f.4. Citations in RISM B/IV/2, 173, and B/IV/2, 163-72. Editions of both motets in *Le Roman de Fauvel*, ed. Leo Schrade, *Polyphonic Music of the Fourteenth Century*, I (Monaco, Éditions de l’Oiseau-Lyre, 1956), 29-31 (*O Philippe* [= *Ludowice*]), and 16-17 (*Qui secuntur*). The critical notes to PMFC v.1 were published in a separate volume; see Leo Schrade, *Commentary Volume to Polyphonic Music of the Fourteenth Century*, I (Monaco, 1956), 76-78, 66-68.

Schrade’s editions of the two motets are based on the recensions in fr.146. The recensions in fr.571 are more highly inflected that those in fr.146, and also employ a series of unusual three-stroke *b-quadrati* that are neither accurately described nor fully accounted for in the critical notes; (that Schrade neither notes nor questions these signs is discussed in Chapter III.3).

There are differences in the motetti of fr.571 and fr.146: *secuuntur vs. secuntur* and *Ludowice* vs. *O Philippe*. The first is an orthographic difference and is not significant; the second, however, refers to two different individuals and is highly significant—see the discussion in VI.6.16, and especially n. 94; see n.81 below.
F-Pn MS fn. fr. 571 is a “mirror of princes,” that is, a didactic manuscript meant to instruct a prince in the duties and responsibilities of kingship.\textsuperscript{34} It was compiled—probably hurriedly—for the fifteen-year-old Edward of Chester, son of Edward II of England and Isabella of France, following the successful conclusion in August 1326 of the negotiations to marry Edward to Philippa of Hainaut.\textsuperscript{35} The presence of the two motets from \textit{Fauvel} and the twenty line drawings known as the \textit{Roman de Fauvain} on the final six folios of fr. 571—a manuscript otherwise solely devoted to text and intended for the eyes of the future King of England—has long exercised both musicologists and art historians. Andrew Wathey has done extensive research on both the music and the political background of this document; Lucy Freeman Sandler and Jane Taylor have each done studies of the \textit{Fauvain} (the first an analysis of the drawings; the second an attempt to connect them to the motets); and Michael A. Michael has performed a codicological and art-historical study of the manuscript.\textsuperscript{36} None of these studies mentions the presence of the three-stroke \textit{b-quadratum} in either motet.

While these unusual \textit{b-quadrati} are the primary concern of this study, it would be myopic, given their presence in a pair of political motets tucked into the final folios of a manuscript intended for the eyes of the future Edward III, not to at least question this set of

\textsuperscript{34} The literature on this subject is considerable; I found Jean-Philippe Genêt’s \textit{Four English Political Tracts of the Later Middle Ages} (London: Offices of the Royal Historical Society, University College London, 1977) to be particularly useful.

\textsuperscript{35} “A final agreement setting out the terms on which the marriage was to take place was concluded with full solemnity on 24 August [1326] at Mons”; Wathey, “Marriage of Edward III,” 12.

circumstances. This would be true even if fr. 571 were the only source of these two motets, but recensions of both first appeared in fr. 146, a manuscript compiled some eight to nine years earlier when the French monarchy was in crisis and Edward II was scheming to take advantage of it, in part by trumpeting his son’s claim to the French throne.

Whether there is a connection between music, signs, and politics will be examined at the conclusion of the discussion of these two motets. In order to make some sense of this profusion of information, however, it is necessary to introduce the key figure whose lives and actions are reflected in these two manuscripts, perhaps in these two motets, and perhaps even in the employment of the three-stroke b-quadratum.

VI.6.2 — Dramatis personae

Because Edward II’s wife, Isabella, was the daughter of Philip IV of France, and because her son, Edward of Chester, was Philip’s grandson—and thus the great-great-grandson of Louis IX (i.e., St. Louis)—her son had a legitimate claim upon the French throne. The French royal family, long familiar with the problems of Anglo-French relations and wary of the trouble the young Prince might one day cause them, took note of his birth. Still, when Edward of Chester was born in November 1312, Philip IV was in the prime of life and had three healthy

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37 Andrew Wathey notes that the folia upon which the two motets were copied were ruled for text, and must have been blank when the last of the texts was copied; see “Marriage of Edward III,” 17.
38 Wathey, noting the fraught state of the French monarchy following the deaths of Philip IV and Louis X, identifies the various actors who posed a threat to the French royal succession. Chief among them was Edward II of England. Wathey cites an explicit parallel between the text of the Roman de Fauvel and the Chronique métrique, noting that these are “the two most substantial texts [in fr. 146].” In the Antichrist episode at the end of Fauvel, Book II, the offspring of Fauvel and Vain Glory “return to pollute the fair land of France, and in which Fauvel is made into the harbinger of the Antichrist. Present in the original version, this episode is further developed through textual and musical interpolations in fr. 146, as an allegory of dynastic upheaval and of the potential threat to the succession. The offspring of Edward II, at least from a Francocentric point of view, clearly would destroy the Capetian realm if they were to inherit it. And this takes on added significance set against a passage concerning the Antichrist in the Chronique métrique. Two clerks visiting Paris foretell the end of the world, reporting that the Antichrist is already born. This tale is prominently placed under the year 1312, which was also the marked by the birth of Edward’s eldest son”; see “Gèrves du Bus, the Roman de Fauvel, and the Politics of the Later Capetian Court,” in Fauvel Studies: Allegory, Chronicle, Music, and Image in Paris, Bibliothèque Nationale de France, MS Français 146, ed. Margaret Bent and Andrew Wathey, 599-613 (Oxford: Clarendon Press, 1998), 611. (emphasis added)
adult sons: Louis of Navarre, Philip of Poitiers, and Charles de la Marche. Upon their father’s
death, Louis of Navarre would ascend to the throne; were Louis to die without an heir, the throne
would pass to Philip, and ultimately to Charles, if Philip were to die without an heir. The
possibility that Edward of Chester would ever be next in line to the throne of France seemed
remote. Yet this is exactly what happened.

By August of 1326, Philip IV (1268-1314) and the first two of his three sons, Louis X
(1289-1316) and Philip V (1293-1322), were all dead. Only Charles de la Marche (b.1293)—by
then, Charles IV—was still living.\(^{39}\) Crucially, when Edward and Philippa were engaged in 1326,
Charles IV had no heir: his only male child, Philippe (1314-1321) had died five years earlier. If
Charles IV died before fathering another son, the two claimants closest to the throne would be
Edward of Chester and Philip of Valois—the son of Charles de Valois.

Charles de Valois (1270-1325) was the younger brother of Philip IV. In addition to
controlling one of the great royal estates of France, Charles served as senior counselor to the
monarchy, advising both his older brother and, following Philip’s death, all three of Philip’s
sons. It was Charles who put forward the idea of marrying Isabella to Edward II, and it was again
Charles who, shortly before his death in December of 1325, proposed the marriage of Edward of
Chester to his granddaughter, Philippa of Hainaut.

There are three more actors whose lives—and deaths—must be mentioned here. The first,
Enguerran de Marigny, was Philip IV’s chamberlain. A lesser noble whom Philip elevated to a

\(^{39}\) Upon his death, Louis X was survived by a four-year-old daughter from his first marriage (Jeanne), and a four-
months pregnant second wife. There was great rejoicing when Clementia gave birth to a son in November 1316, but
the celebrations were short-lived: little Jean I died within days. Against the claims that Jeanne should become
Queen, Louis’ younger brother, Philip had himself crowned at Reims in January 1317. Philip’s only male child had
also died in 1316, and he did not father another male child before his death in 1322, at the age of 28. The
vulnerability in the succession to the French throne that Louis X’s death exposed seems to have encouraged
Edward II to become more opportunistic towards the French. (Collated from notes taken during the final Roman de
Fauvel Seminar at NYU, led by Edward Roesner, Nancy Freeman Regalado, and Elizabeth A. R. Brown, Spring
2007.)
position of power beyond his birthright, Marigny was the prototype for the character of Fauvel. He is the explicit subject of three motets in fr. 146, and very likely the *nequissima vulpis*—the “wicked fox”—invoked in the triplum of *Qui secuntur*.

The Despensers, Hugh Sr. and Jr., were a father and son pair of Welsh magnates who rose from obscurity to become the most powerful barons in the court of Edward II. Their interests were antithetical to those of the queen, Isabella, and ultimately put them on a collision course that intersected—disastrously for the Despensers—following the successful conclusion of the contract to marry Edward of Chester and Philippa of Hainaut. The insertion of the Fauvel motet *Qui secuntur*, with its depiction of marauding princes, into fr. 571 may have been a sideways reference to the Despensers.

**VI.6.3 — Dynastic Marriages**

Some observations about the political calculus of dynastic marriages may be of use here. Marriages between noble families were the foundation of strategic bonds in medieval Europe. The alliance that Charles de Valois and Philip IV hoped the marriage of Isabella to Edward II would establish was intended to reduce the long-standing tensions between the two countries over the issue of English possession of French lands in Aquitaine. While Philip IV was alive, the alliance was indeed a success. Philip was fond of his son-in-law and treated him with great respect, and Edward, for his part, abstained from meddling in French politics.

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40 “Marriages were the fabric of international as well as inter-noble relations, the primary source of territory, sovereignty, and alliance, and the major business of medieval diplomacy. The relations of countries and rulers depended not at all on common borders or natural interest but on dynastic connections and fantastic cousinships which could make a prince of Hungary heir to the throne of Naples and an English prince claimant to Castile. At every point of the loom sovereigns were thrusting in their shuttles, carrying the strand of a son or a daughter, and these, whizzing back and forth, wove the artificial fabric that created as many conflicting claims and hostilities as it did bonds. *Valois* of France, *Plantegenets* of England, Luxemburgs of Bohemia, Wittelsbachs of Bavaria, Hapsburgs of Austria, Visconti of Milan, the houses of Navarre, Castile, and Aragon, Dukes of Brittany, Counts of Flanders, *Hainault*, and Savoy were all entwined in a crosscrossing network, in the making of which two things were never considered: the sentiments of the parties to the marriage, and the interests of the populations involved.” Barbara Tuchman, *A Distant Mirror: The Calamitous 14th Century* (New York: Knopf, 1978), 47. (emphasis added)

After Philip’s death, Edward’s behavior towards his French in-laws became increasingly opportunistic. He began to assert his son’s claim to the French throne, and after the death of Louis X, put forward a plan to divide the estates of France amongst himself and Philip IV’s two remaining sons: Philip of Poitiers (Philip V) and Charles de la Marche (Charles IV). While this plan never came to fruition, it did enrage Charles de Valois, whom Edward had excluded from his plan. It seems also to have cemented Charles’ enmity towards Edward, and it is against this background that Charles’ proposal to marry Philippa to Edward of Chester must be seen.

The strategic benefit for both sides—a continuation of what was in effect a peace treaty between the two countries—must have been obvious. From the English perspective, the marriage had two advantages. The first was to rehabilitate Isabella in the eyes of her family. The second was to expand English influence in France through a marriage agreement with Hainaut, something Edward II had first explored in 1319.

From the French perspective, the advantages are harder to see. The potential for problems, however, must have been clear: whereas the first son of Edward and Isabella would have been able to claim descent from Louis IX on his mother’s side, the first son of Edward and Philippa would be able to claim descent from Louis IX on both sides. The future difficulties this might pose would not have been lost on Isabella’s brother Charles IV nor on her nephew Philip of Valois. This marriage, moreover, was being negotiated against a backdrop of considerable animosity between Edward’s family (Plantagenets) and Philippa’s (Valois)—an animosity that had been escalating for a decade. One has to wonder what benefit the French hoped to realize from this union. Andrew Wathey suggests it may have been the following:

42 See Wathey, “Gèrves du Bus,” 608.
43 Ibid.
Prince Edward’s claim to the French crown could be used as a bargaining chip to secure the support of Philip de Valois, the principal French contender for the succession. The price of this support was clearly intended to be the formal renunciation of the English claims at a later date. This duly became one of Edward III’s first acts after his accession.\footnote{Ibid., 15.}

Assuming this were so, what the French wanted in exchange for Philippa’s hand was an agreement that Edward III would not challenge Philip of Valois for the French throne should Charles IV die without a male heir. Wathey (fn.23) cites Natalie Fryde’s *Tyranny and Downfall of Edward II* as his source for this information, and it is worth looking at what she says:

> One of the first things which Isabella did after overthrowing Edward II was to renounce her son’s claim to the throne of France, and we may hazard a guess that she did this in repayment of services rendered.\footnote{Natalie Fryde, *The Tyranny and Fall of Edward II, 1321-1326* (Cambridge: Cambridge University Press, 1979), 181-82.} (emphasis added)

Fryde does not cite any documentary evidence supporting either Isabella’s or Edward’s renunciation.\footnote{Ibid., 181-82.} In the same footnote Wathey also says “but see *Calendar of Patent Rolls Preserved in the Public Record Office: Edward III, Vol. 1, A.D. 1327-1330* (London: Her Majesty’s Stationery Office, 1891), 271.” The first entry on page 271, dated May 16, 1328, reads:

> “Power for Adam, bishop of Worcester, and Roger, bishop of Chester, as the king’s proctors, to demand and receive for him his rights as heir to the crown of France.”

Thus, when Charles IV died in February of 1328 without a male heir, Edward did indeed assert his rights to the throne of France, regardless of any agreement to the contrary his mother might have made with Philip of Valois.

This raises the question as to whether Isabella did, in fact, agree to renounce Edward’s rights in return for Valois support of his marriage to Philippa. As Philip IV’s only living

\footnote{Ibid., 181-82.}
grandson in 1326, Edward was indeed closer in the line of succession to the throne than Philip of Valois (who was Philip IV’s nephew). The Valois clan, however, had no intention of ever seeing Edward on the throne of France, and it makes sense that they would not have agreed to the marriage without Isabella’s promise to renounce Edward’s right to the French throne. But no surviving documents attest to such an agreement. 49 Was it a verbal agreement sealed with a handshake, or did Isabella somehow manage to avoid making it? In the analysis of the two motets from fr. 571 that follows, I wish to keep the question about Isabella’s deal with the Valois open in the background. I will return to it after the music, texts, and accidentals have been examined independently.

VI.6.4 — The Motets, the Three-Stroke b-quadrati, fr. 571, and the Roman de Fauvain

The motets Ludowice / Servant regem / Rex regum (f.144r) and Qui secuuntur / Detractor est / Verbum iniquum (ff.144v-145r), and the set of twenty line drawings known as the Roman de Fauvain that occupy ff.146-150 of fr. 571 are not listed in the table of contents. Studies of the manuscript, however, indicate they were present when the compilation was complete. 50

VI.6.5 — Ludowice / Servant regem / Rex regum

Ludowice prelustris francorum / Servant regem misericordia / Rex regum (fr. 571, f.144r; hereafter, Ludowice) is the first of two “political” motets from fr. 146 that were copied into the

49 I also contacted Seymour Phillips, biographer of Edward II, regarding the above, and received the following reply: “I am as puzzled as you are as to where Natalie Fryde found the information to support her statement on p.181. She does not of course cite any source, but immediately before her statement she cites J.Viard, ‘Philippe de Valois avant son avenement au trone,’ Bibliotheque de l'Ecole des Chartes, 91 (1930), p.324; and P. Viollet, ‘Comment les femmes ont eue exclues en France de la succession a la couronne,’ Memoires de l’Academie des Inscriptions et Belles Lettres, 34 (1895), pp.125-54, in footnotes 29 and 30 on p.265 of her book. I have checked Viard and found nothing to support her statement there. I have not been able to check Viollet. On the other hand Isabella did lodge a claim on behalf of Edward III in May 1328 at the time of the coronation of Philip VI. (Foedera, ii,ii, 743). I have checked my own notes from the Archives Nationales and have found nothing corresponding to Natalie’s statement. Neither is there any such reference in Paul Doherty's thesis on Isabella. I have also looked at Roy Haines, Edward II, where he mentions Natalie Fryde’s statement on p.181, but is not convinced by it. Unless there is something in Viollet's paper or there is some other source which Fryde has drawn on without citing a reference, I think she must be wrong.” Personal communication, July 3, 2007.

50 See note 34 above.
empty pages at the end of fr. 571. It differs from the recension in fr. 146 by the greater number of signed accidentals (including one three-stroke $b$-quadratum), and the different name in the motetus. The text of the triplum (Servant regem; see Fig.VI.24 below) echoes the moralizing and didactic texts of the Tresor and the Secreta, but ends with an abrupt—and tart—warning to the new king. The text of the motetus directly addresses Louis X, the great-grandson of St. Louis. In the middle of the motetus, there is a direct order to “attack the race of pagans,” followed by a reminder that this was a promise. What significance these texts might have had for Edward—or Isabella—will be considered at the conclusion of this section.

**Fig.VI.24: Texts & Translations of Ludowice / Servant regem / Rex regum**

<table>
<thead>
<tr>
<th>Line</th>
<th>Text</th>
<th>Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Servant regem misericordia</td>
<td>Mercy and truth and also clemency save a king.</td>
</tr>
<tr>
<td>2.</td>
<td>et veritas neconon clemencia.</td>
<td>A king sitting on the throne of justice takes away evil by the very sight of him.</td>
</tr>
<tr>
<td>3.</td>
<td>Iudicii rex sedens solio</td>
<td>A wise king scatters the impious; an unwise one raises up the ignorant.</td>
</tr>
<tr>
<td>4.</td>
<td>malum tollit aspectu proprio.</td>
<td>If the impiety of a king be taken away, the throne is strengthened by justice.</td>
</tr>
<tr>
<td>5.</td>
<td>Rex sapiens dissipat impios</td>
<td>Judgement settles a case, justice eliminates the false.</td>
</tr>
<tr>
<td>6.</td>
<td>insipiens erigit inscios.</td>
<td>A king who willingly hears lies heeds all impious servants.</td>
</tr>
<tr>
<td>7.</td>
<td>Impietas regis si tollatur</td>
<td>The clemency of a king is praiseworthy, his severity is terrible.</td>
</tr>
<tr>
<td>8.</td>
<td>iusticia thronus roboratur.</td>
<td>Good (is) the land whose king is noble, but woe to the land if he be childish.</td>
</tr>
<tr>
<td>9.</td>
<td>iudicium causam determinat</td>
<td>Better poor and wise and a boy than a foolish king.</td>
</tr>
<tr>
<td>10.</td>
<td>iusticia falsum eliminat.</td>
<td>Today he is king and tomorrow he dies. Therefore let him live justly and holily.</td>
</tr>
<tr>
<td>11.</td>
<td>mendacia rex qui libens audit</td>
<td>A king who willingly hears lies heeds all impious servants.</td>
</tr>
<tr>
<td>12.</td>
<td>Omnes servos impios exaudit.</td>
<td>The clemency of a king is praiseworthy, his severity is terrible.</td>
</tr>
<tr>
<td>13.</td>
<td>Clemencia regis laudabilis,</td>
<td>Good (is) the land whose king is noble, but woe to the land if he be childish.</td>
</tr>
<tr>
<td>14.</td>
<td>severitas eius terribilis.</td>
<td>Better poor and wise and a boy than a foolish king.</td>
</tr>
<tr>
<td>15.</td>
<td>bona terra cuius rex nobilis.</td>
<td>Today he is king and tomorrow he dies. Therefore let him live justly and holily.</td>
</tr>
<tr>
<td>17.</td>
<td>Melior est pauper et sapiens</td>
<td>The clemency of a king is praiseworthy, his severity is terrible.</td>
</tr>
<tr>
<td>18.</td>
<td>atque puer quam rex insipiens.</td>
<td>Good (is) the land whose king is noble, but woe to the land if he be childish.</td>
</tr>
<tr>
<td>19.</td>
<td>Rex hodie est et cras moritur;</td>
<td>Better poor and wise and a boy than a foolish king.</td>
</tr>
<tr>
<td>20.</td>
<td>iustitiae hostes evertit;</td>
<td>Today he is king and tomorrow he dies. Therefore let him live justly and holily.</td>
</tr>
</tbody>
</table>

**VI.6.6 — The Two Kings**
The two recensions of this motet name different French kings at the start of the motetus. In fr. 571, the king named is *Ludowice* (i.e., Louis X, who reigned 29.xi.1314 - 5.vi.1316); in fr. 146, it is *Philippe* (or, Philip V, who reigned 9.i.1317 - 3.i.1322). It has long been accepted that: (a) the recension in fr. 571 was prior to that of fr. 146; (b) that fr. 571 must have been compiled c.1315-1316, while Louis was alive; and (c) that, had it been compiled in 1317 or thereafter, the motetus would have named Philip, not Louis.51

In 1985, the art historian Michael A. Michael demonstrated, on the basis of the illumination and the heraldry of fr. 571, that the manuscript was compiled to celebrate the betrothal of Edward of Chester to Philippa of Hainaut in August of 1326. This discovery inverted the chronology of the motet. It is now evident that the version naming the earlier king (Louis X) appears in the later MS (fr. 571, c.1326), and the version naming the later king (Philip V) appears in the earlier MS (fr. 146, c.1317-20). This in turn reopened the question of which version came first, to which I will return below.

**VI.6.7 — The missing music in fr. 146**

In fr. 146, the final two staves of the triplum (staves 13-14, f.10v; mm.51-59 in transcription) are texted but have no music; (see Fig.VI.25, lines 19-20). The underlay—*Rex Hodie est et cras moritur, iuste vivat et sancte igitur*—which I translate loosely as “here today and gone tomorrow, therefore live honestly and righteously,” would have been significant either

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51 The conclusion that the motet was originally addressed to Louis X has a long history: “the first motet bears the name Ludovice (i.e., Louis X), which had already been changed to Philippe (Philip V) in Pn 146”; RISM B/IV/2, 173. “In its only concordance, in Paris MS fr. 571, this work is addressed not to Philippe but to his brother Louis; the motetus text begins not ‘O Philippe’ but ‘Lodovice.’ The latter no doubt preserves the original form of the text”; Edward H. Roesner, François Avril and Nancy Freeman Regalado, *Le Roman de Fauvel: In the Edition of Mesire Chaillou de Pesstain: A Reproduction of the Complete Mauuscript, Paris, Bibliothèque Nationale, Fonds Français 146* (New York: Broude Bros., 1990), 24b. “The texts of Ludowice celebrate the rule of a king Louis, and it has widely, and no doubt rightly, been assumed that this meant Louis X, who died in 1316,” Wathey, “Marriage of Edward III,” 17-18. More recently this has come into question: “It is not yet possible to establish whether the motet O Philippe prelustris francorum / Servant regem / Rex regum in fr. 146 represents the first version of this work, or is adapted from the version beginning Ludowice prelustris francorum rex in BN 571”; Margaret Bent and Andrew Wathey, *Fauvel Studies* (New York, Oxford: Clarendon Press), 16.
to Louis X or Philip V, whose father had died suddenly and unexpectedly and while seemingly in good health. And it might have been especially poignant for Philip V, whose older brother, Louis X, had died one year earlier at the age of twenty-seven.\textsuperscript{52}

But what might it have meant in the context of fr. 571? Again, I will return to this question below.

\textbf{VI.6.8 — The three-stroke square-b p/16}

The music missing at the conclusion of the triplum in fr. 146 (i.e., \textit{Rex hodie est} …) is present in fr. 571. Moreover, a three-stroke \textit{b-quadratum}—\textbf{p/16} in the transcription—in the penultimate measure helps prepare the progression to the final sonority; (see Fig. VI.26). This accidental inflects bb, which is simultaneously the highest note in the motet and the sole instance of this note.\textsuperscript{53} Notably, it highlights \textit{san-cete} (i.e., “righteously”) and is thus the syntactic crux of

\footnote{David Howlett translates this: “Today he is king and tomorrow he dies Therefore let him live justly and holily”; Wathey, “Marriage of Edward III,” 20.}

\footnote{There are many instances of motion to/from aa (mm. 5, 14, 16, 28, 31, 38, 42, 57), but none to bb except in m.58.}
the warning *Rex hodie est*. And at no other place in either motetus or triplum is b signed fa or mi. Why, then, did the scribe inflect the bb in m.58, why did he use an unusual *b-quadratum*, and why did he insert it above *hodie* (the equivalent of m.52 in the below transcription), some nineteen perfections prior to its target pitch?

**Fig.VI.26: The Three-stroke *b-quadratum* at the Crux of Ludowice / Servant / Rex**

VI.6.9 — *Qui secuuntur / Detractor est / Verbum iniquum*

*Qui secuuntur / Detractor est nequissima vulpis / Verbum iniquum* (fr. 571, ff.144v-145r) is the second of the two “political” motets from fr. 146 to have been copied into the end of fr. 571. Like *Ludowice*, it has more signed accidentals in the fr. 571 recension than in fr. 146,

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54 The round-b is signed three times: m.18 (T: *h/4*); m.26 (M: *d/7*); and m.32 (Tr: *l/10*). Twenty-five measures separate this last round-b from the three-stroke square-b *p/16* in m. 58.

including five three-stroke \textit{b-quadrati}.\textsuperscript{56} The texts of \textit{Qui secuuntur} are darker and more opaque than those of \textit{Ludowice}. The bilingual triplum (Latin and French) “make[s] what appear to be explicit reference[s] to specific people and happenings,” but a positive identification of who and what remains elusive. Edward Roesner cautions that “Perhaps the most that can be said with confidence … is that the motet … admonishes the ruler to beware the false, flattering counselor.”\textsuperscript{57} Again, what significance these texts might have had in the context of fr. 571 will be considered in the conclusion of this section.

\begin{center}
\begin{tabular}{ll}
\textbf{Fig.VI.27: Texts & Translations of \textit{Qui Secuuntur} / \textit{Detractor est} / \textit{Verbum}}
\hline
1. & Detractor est nequissima vulpis \hfill The fox is a most wicked traducer \\
2. & \textit{par ses mesdis grieve autriu et luy pis} \hfill by his slander he hurts others and himself worse. \\
3. & \textit{sed non minus adulator blandus} \hfill But no less is he a smooth flatterer. \\
4. & car il dechoit roys contuces princes dus \hfill For he deceives kings, princes, counts, dukes. \\
5. & omnibus sunt tales fugiendi \hfill Such should be shunned by all people, \\
6. & et li uns plus que li autres sen di \hfill and one more than the others, without term. \\
7. & detrahare ulli vel audire \hfill He desires to wish to traduce anyone, \\
8. & ont medisauent de voloarf desire. \hfill or to hear of a slander. \\
9. & huismodi qid dampnabilius \hfill What could be more damning than such conduct? \\
10. & iugier le doyt raisouens et non li us. \hfill Reason, not use, should be judged. \\
11. & De pikegni O vicedomine \hfill Vidame of Picquigny, \\
12. & par teles gens prince ont determine. \hfill By such means princes have determined \\
13. & in subditos quocunque grassari \hfill to run wild against some of their subjects. \\
14. & dount cest pities sensunt plusieurs mari \hfill Pity it is: many are harmed by it. \\
15. & ecclesias palam expoliart \hfill They rob churches openly, uttering evil, \\
16. & sour espece de bien mal palliaunt \hfill under the pretext of good, \\
17. & juste deus peccatores lue \hfill Just God, purge the sinners of their slanders, \\
18. & de lour mesdis car il sunt trop luic. \hfill for they are too well rewarded. \\
1. & Qui sequuntur castra sunt miseri \hfill Those who follow camps are miserable, \\
2. & car povremont sont service meri \hfill for poorly are services repaid \\
3. & fideilbus qui bene serviuant \hfill for faithful men who serve well \\
4. & sanz mesproisoun et de vrai cuer seri \hfill without wrongdoing and with true and pure heart. \\
\hline
\end{tabular}
\end{center}

\textsuperscript{56} Nineteen signed accidentals in fr. 571 vs. eight in fr. 146.

\textsuperscript{57} The text from which this was excerpted is worth quoting in full: “Like \textit{Quoniam secta latronum} and \textit{In nova fert}, two other \textit{Fauvel} motets, \textit{Qui secuntur castra} and \textit{Heu fortuna subdola}, make what appear to be explicit reference to pinquegni O vicedomine / \textit{per tele gents prince ont determine}” (\textit{triplum}, vv. 11-12). Since Renault de Picquigny was one of the officials charged with arresting the Templars and inquiring into the accusations against them, Arthur Långfors concluded that the motet concerns the Templars—and more precisely, that it takes a position supportive of the Knights in their predicament. However, the abrupt shifts in syntax between the alternating Latin and French lines result in a fabric that makes this interpretation difficult to sustain. So also does the fact that the \textit{roman} verses in the vicinity of \textit{Qui secuntur castra}, which speak in moving terms of the reign of Fauvel over men, do not provide the opportunity for the kind of topical gloss that the lines illustrated by \textit{Jure quod in opere} and \textit{Que nutritos filios} do. Both the \textit{Chronique métrique} and the \textit{grande chronique} report that “Messire Ferri de Piquegny” led the lords of Picardy and Normandy in the purge of Marigny after the death of Philippe le Bel. The motet may allude not to the Templars, but to the fallen chamberlain. Perhaps the most that can be said with confidence about \textit{Qui secuntur castra} is that the motet, like the moral \textit{dits} of Geffroi de Paris, admonishes the ruler to beware of the false, flattering counselor: “adulator blandus, / Car deçoit roys, princes, contes, dus” (\textit{triplum}, vv. 3-4).” Roesner et al., \textit{Roman de Fauvel}, 20b-21a.
5. de calice tales bibunt meri
6. mes li graeur qi ades servi ont.
7. mendaciis tanquam nusigleri
8. plus conques mais as grauns sunt encheri
9. hii de fece bibunt et siciunt
10. usques ataunt ge bien fait on peri
11. hos duc deus ad portas inferi.

Such men drink from the cup of wine.
But the flatterers who have always served lies
like dealers in trifles,
are valued by people more than ever;
they drink from the lees and are thirsty.
Therefore, since good deeds have gone to waste,
lead them, O Lord, to the gates of hell.

verbum iniquum [et dolosum abominabitur dominus] The Lord will abhor an unjust and treacherous word.

VI.6.5.10 — The Accidentals

In just forty-three measures of music, there are nineteen signed accidentals in the fr. 571 recension of *Qui secuuntur*, making it one of the most highly inflected works in this study.\(^{58}\)

Eleven of these nineteen signs are normal two-stroke *b-quadrati*.\(^{59}\) Fig.VI.28 illustrates five of the six places where a *mi-contra-fa* problem between b and f is resolved by inflecting f with a two-stroke *b-quadratum*; the sixth will be discussed below.

I note there is nothing particularly remarkable about these signs, other than to say they convey the impression of a scribe who was competent, and perhaps explicit to the point of redundancy. Why, for instance, did he inflect bbmi with *l/13* when the following inflection—the fmi signed with *m/14*—would suffice to indicate the perfect fourth between them? I will return to

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\(^{58}\) Only *Fumeux fume*—also only 43 measures long—with 50 signed inflections, and *Ave regina / Mater innocencie*, with 20 signed inflections over 117 measures, have more.

\(^{59}\) *Causa pulchritudinis* inflections: *a/1* (m.2, mot); *c/2* (m.7, mot); *j/11* (m.25, tr); *k/12* (m.26, tr); *q/18* (m.38, tr).

*Causa necessitatis* inflections: *b/6* (m.2, tr); *f/3* (m.16, mot); *h/9* (m.23, mot); *l/13* (m.29, mot); *m/14* (m.29, mot); *p/17* (m.38, tr).
this question in a moment, but it raises a point about the two-stroke \textit{b-quadratum} that I wish to underscore. If this sign \(\text{\textbullet}\) perfects what would otherwise be a diminished fifth (i.e., bmi-ffa), then the semitone it indicates must be the Pythagorean minor semitone (i.e., \textit{limma}).

Fig.VI.29 shows the five three-stroke \textit{b-quadrati}. The topmost diagonal stroke of \textit{e/8} is faint, and its overall shape is somewhat indistinct, but there is no question about \textit{d/7, i/10, o/16, or r/19}: the vertical strokes are those of the \textit{b-quadratum}, and there are three clear diagonal strokes in each.\(^{60}\)

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{fig6_29}
\caption{The Five Three-Stroke \textit{b-quadrati} of \textit{Qui \& Detractor \& Verbum}}
\end{figure}

\textbf{VI.6.11 --- Same Pitch but Different Accidentals = Anomalous Use?}

There are a total of four places in this motet where bb is inflected with a \textit{b-quadratum}: in measure 29, by the normal \textit{b-quadratum i/13}; and in mm. 25, 32, and 41, by the unusual three-stroke \textit{b-quadrati i/10, o/16, and r/19}. I suggested above that \textit{i/13} was redundant, but the presence of the three-stroke \textit{b-quadrati} on either side alters this view. Reading from the tenor up, the sonority at the beginning of measure 29 is b(mi)-d-bbmi. Assuming for the moment that \textit{i/10}

\(^{60}\) The five three-stroke \textit{b-quadrati} are: \textit{d/7} (mm.10-11: \textit{adulator blan-dus}); \textit{e/8} (mm.12-12: \textit{car il dechoit roys}); \textit{i/10} (m.25: \textit{huius-mo-dî}); \textit{o/16} (mm.32-33: mm. 32-33: \textit{gras-sa-rî}); \textit{r/19} (mm.40-41: \textit{peccatores lu-e}).
(m.25) and o/16 (m.32) indicate non-Pythagorean intonation, the signing of l13 would explicitly indicate that Pythagorean intonation is necessary here.

VI.6.12 — A Musical Gloss upon the Text?

Of all the texts in this study, none has a more vivid set of images than the triplum of Qui secuuntur: it tells of a wicked fox—a “smooth flatterer”—who deceives kings, princes, counts, and dukes; it asks if there is any conduct more damning than this; it refers to princes who trample their subjects and who openly rob churches; it ends with an appeal to God to purge these miscreants. Some of these images, moreover, are inflected with three-stroke $b$-quadrati.

The first is the setting of adulator blandus car il dechoit roys (mm.10-13). The inflection at d/7 is a tenth-to-twelfth progression (E/c$^x$/g$^x$–[])/d/aa) of the sort Marchetto indicates should be tuned with diesis. Like the first inflection in Marchetto’s Ave regina, the step between f and g$^x$ is wider than a whole tone, and consequently, the d–c$^x$ in the motetus would have to be very narrowly inflected to maintain the fifth with the g$^x$ above. This might work out if, on beat one of measure 12, the low D were there, but it is not: what we hear at this moment is a microtonally ascending parallel fifth in the upper voices with no tenor to anchor it.

This occurs at blan-dus, i.e., “smooth.” What happens next is similarly acrobatic. As the triplum sings car il dechoit roys (with e/8 inflecting g$^x$), the motetus negotiates a fourth that descends by: diesis; tone+chroma, and tone. It then reverses the pattern in ascent. Somehow it all resolves to G/d/g at measure 13. The text of the motetus that underlies this sequence bemoans the poor treatment of “faithful men who serve well.” Indeed.

VI.6.13 — The Unusual Sonority at Measure 41, Beat 1

Of the five three-stroke $b$-quadrati, r/19 is the only one to sound in tandem with a signed accidental in the motetus—the ambiguous $b$-quadratum s/5; (see Fig.VI.30 below). At first glance, s/5 resembles a single-stroke $b$-quadratum. A closer look at the color facsimile, however,
shows a second diagonal stroke above the first, so faint that it is almost not visible. Whether the scribe made a mistake and immediately corrected it, or whether his pen had simply run out of ink is not possible to say. But the vertical sonority atop which s/5 sits suggests that this sign has a special purpose: the tenor and the triplum, if normally tuned (b-bb\textsuperscript{2}), would be an octave apart. If r/19 indicates that bb\textsuperscript{x}-c is a microtone, then aa-bb\textsuperscript{y} would be wider than a tone, and b-bb\textsuperscript{z}, wider than an octave. Similarly, if s/5 has non-Pythagorean significance, then the interval e-f\textsuperscript{z} would be wider than a tone. And if the two unusual signs represent different divisions of the tone—quarter-tone and third-tone (as per the Tonus dividitum), perhaps—then the entire sonority would be out of tune: neither the octave nor the fifth would be perfect. What’s more, this seems to have been the point. Why?

Again, the texts provide some clues. Up to this point, both the triplum and the motetus have been tracking the problem from different points of view: the one describing the depredations of the fox and his associates, and the other lamenting the fate of those adversely affected by this state of affairs. At mm.39-40, however, the two texts converge, simultaneously imploring God to put an end this tyranny: the triplum asks God to “purge the slanderers” while the motetus demands “lead them, God, to the gates of Hell.” It is this reference, more than any other, that connects the Roman de Fauvain to the motets, for in the thirty-sixth panel, there is an image of the Devil stuffing Fauvain—an evil horse akin to Fauvel—into the mouth of Hell\textsuperscript{62}; (see Fig.VI.30 below):

\textsuperscript{61} This second stroke was not visible in the black and white microfilm from which I first transcribed this motet. \textsuperscript{62} See n.66 below.
The music at this point is no less remarkable. Ascending melodic lines in motetus and triplum progress toward an apparent cadence to c/cc, but both ascend only a tritone each before cresting on the out-of-tune b/f/3/bb3 sonority at the beginning of measure 41. Only after leaving us suspended on this discord for most of the measure does the composer release us and proceed to the final cadence.63

To return for a moment to the problematic s/5, even if it is a normal two-stroke b-quadratum—or was meant to be—the sonority would still be out-of-tune. Moreover, it would be out-of-tune for two beats: a very long time compared to the final inflection in Ludowice, which lasts for a very brief triplet-sixteenth beat. I know of no other work in which such a discord is explicitly notated and so clearly deliberate.

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63 An ascending progression that reverses direction just short of cadencing is found some six times in Quoniam secta / Tribum que / Merito, fr. 146, ff. 41v-42; see especially mm.34-35 in PMFC, where the ascent to f in the motetus stops on e and is followed by a series of descending parallel fifths. The triplum’s text at this place—patibulum—translated as “gallows,” and is a reference to the hanging of Enguerran de Marigny on 30 April 1315; see Roesner et al., Roman de Fauvel, 20, 24, 52. The sense of “hanging” in m.41 of Qui secuuntur may be a similar kind of commentary, and connects these two Fauvel motets.
Which leads back to the larger question of what are these two motets from the *Roman de Fauvel*—both of them related to events that occurred some ten years earlier—doing in a manuscript meant for the edification of the future Edward III of England?

**VI.6.14 — Revisiting fr. 571**

Fr. 571 is a manuscript for which we have many questions but few answers. We know, for instance, that both the motets and the *Fauvain*—despite their presence in a “mirror of princes” manuscript—had been copied into fr. 571 before the volume was completed and bound. We know that the manuscript had two text scribes: the first, who copied the vast majority of what survives of it (ff.6-122) in a Picard dialect, and a second Anglo-Norman scribe, who copied the remainder (ff.124-50), including the motets and the *Fauvain* (ff.144-50). We know that the manuscript was illuminated by a single English artist who appears to have completed his work—including the twenty drawings of the *Fauvain*—while still in Hainaut.

But there are fundamental questions for which we do not have any answers. Was the compilation of fr. 571, for instance, a joint effort between all the parties to the marriage, or was it primarily an English effort? Why were the motets and the *Fauvain* added, and who was responsible for having them copied in? Given the motets’ explicit connection to the interpolated *Roman de Fauvel* (c.1317-1320), and therefore to political events in France that occurred some c.1314-1317, what might they have meant when they were copied into fr. 571?

As regards who gave this manuscript to whom, and therefore, as to who was responsible for its contents and production, there are ideas, but no agreement. In his 1992 *JAMS* article,

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64 Michael, “Manuscript Wedding Gift,” 585a.
65 Michael, on the basis of the illumination on f.6 (in which a young woman is shown holding out a book), thought it was given by Philippa to Edward; ibid., 582. Sandler counters that the woman could be either “donor or recipient”; *Gothic Manuscripts*, 1:105. Wathey states the manuscript was given by Edward to Philippa; Wathey, “Marriage of Edward III,” 18. Taylor, writing some 10-15 years later in *Fauvel Studies*, notes that Wathey (and Patricia
Andrew Wathey sees the manuscript as being a gift from Edward to Philippa. Though he does not explicitly say so, his view assumes that Isabella was sponsor, and when discussing the motets, Wathey interprets them as being consonant with the larger purpose of fr. 571, that is, with the education of Edward III.

It was Jane Taylor who first suggested the motets might have been dissonant to the purpose of the manuscript as a whole. In her chapter on the Roman de Fauvain in Fauvel Studies, Taylor states that the “Roman de Fauvain is based firmly on the Roman de Fauvel,” and that there are textual “reminiscences” in Fauvain that cannot be understood without reference to Fauvel. She notes the presence of “thematic links specifically between the motets and the Roman de Fauvain,” and observes that those who compiled fr. 571 must have been familiar with the musical repertory of Fauvel. She identifies a network of “writers, scribes, artists, all from chancery circles” who lived in Hainaut or northern France and whose work was in some way connected to fr. 571. She then focuses on one of these figures, Watriquet de Couvin, who had professional and artistic connections to both sides of Philippa’s family. Although not able to demonstrate that Watriquet was one of the compilers of fr. 571, Taylor notes that a pair of Watriquet’s dits (i.e., moralizing stories) were compiled into a manuscript (Arsenal 3525) in which the first dit explicitly mentions Fauvain, and the second praises Loyauté (the protagonist of the Roman de Fauvain). Of particular interest is that this second dit is preceded by a miniature Stirneman) now see the “volume less as a wedding gift than as a celebratory volume to mark the occasion of the betrothal”; Taylor, “Le Roman de Fauvain,” 573 n. 13.

66 “[It] formed a fitting gift for the companion of a future king, conceived with the very real tasks of kingship in mind”; Wathey, “Marriage of Edward III,” 18.

67 “The texts of the motet Ludowice take as their main theme the duties and attributes of royal rule, and thus aptly complement the program embodied in the volume’s literary contents … It is possible also to see a complementary role for the other motet in this collection, Qui secuntur / Detractor est / Verbum iniquum, whose texts similarly elaborate the theme of wise kingship”; ibid., 18-19.

68 Taylor, “Le Roman de Fauvain,” 575 n. 22.

69 Ibid., 589.
of all estates grooming Fauvel, and was executed by the "Fauvel artist" of fr. 146. Taylor goes on to note this manuscript is also a "mirror of princes," and was "prepared under Watriquet’s supervision" for Philip of Valois. She further notes that the significance of this miniature is not mentioned or otherwise explained, and would have been meaningful only if the reader already knew something about fr. 146. Taylor does not pursue the connection of the Valois clan to fr. 146 (perhaps because Andrew Wathey does in the final chapter of Fauvel Studies?); instead she ends her study with a series of questions. It is the last of these that asks whether the Fauvain and the fr. 571 recensions of Ludowice and Qui secuuntur might not be dissonant to the rest of the manuscript:

Ought we even to see fr.571 as having a consistent subtext not at the level of reception, but at that of production? That is to say, as being, like fr.146, in part an in-joke on the part of the compilers who finish off what is otherwise a highly conventional anthology with the extraordinary additions of the motets and the Fauvain ... Is the one entirely comprehensible without the other? This apparently sober volume is perhaps a most sophisticated example of medieval intertextuality—only entirely ‘readable’, paradoxically, by the compilers themselves.

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It is in Andrew Wathey’s contribution to the same volume that an alternative motivation for the motets and the Fauvain begins to emerge. Wathey briefly summarizes how much is now known about the Fauvel project and observes that the “likely instigators of this project … as distinct from its authors or copyists have received little attention.” He then states that it is his purpose to go looking for them. What his research reveals is that, while there were in fact many instigators, foremost amongst them was Charles de Valois:

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70 This volume is now Bibliothèque de l’Arsenal MS 3525; for Taylor’s account, see ibid., pp.580-84.
72 Ibid., 589.
73 Wathey, “Gèrves du Bus,” 600.
Construction of an anti-Marigny polemic, as well as that of the legal case by which Philip IV’s chamberlain was condemned, now appears to have been almost exclusively the work of Charles, his allies among the French princes, and their supporters.74

Wathey also notes that while the character of Fauvel may have originally signified Marigny and his cohorts, following Marigny’s execution in April 1314, Fauvel probably came to represent any of Charles’s enemies. He cites Charles’ half-brother, Louis d’Evreux as an example:

After Louis X’s death, Louis d’Evreux challenged [Charles’] own expectations as senior royal mentor, victimized Valois clients, and made attempts to obtain special favours for his own offspring. For a suitably partisan reader, his rise to prominence might well invite parallels with the case of Fauvel. In this light almost any of the motet’s numerous imprecations against usurpers and false councilors might bring to mind Charles’s half-brother. References to vain, self-seeking councilors, to bland flatterers ‘who have always served lies’ (*Detractor est/Quis secuntur/Verbum iniquum*), and to representatives of ‘the tribe which did not shrink from ascending indecently’ could be understood in this way; so too the advice to ‘let a certain man who might perhaps fall … know also what an outcome it would be to fall to the depth’ (*Tribum/Quoniam/Merito*).75

He then goes on to name Edward II as a particularly good candidate for a flesh-and-blood incarnation of Fauvel:

There are hints [of Edward-as-Fauvel] in the charivari accompanying Fauvel’s wedding feast, for which the *Grant feste* held in June 1313 to mark the knighting of Philip IV’s sons and the assumption of the cross is widely recognized as the model. Fauvel, on the morning of his wedding feast, overslept. Similarly, the author of the *Chronique métrique* in fr. 146 makes Edward and Isabella oversleep on the morning of the ceremony at which the wives of the royal princes took the cross.76

Wathey calls this an “explicit parallel, drawn between the two most substantial texts in the manuscript” and notes it points to other references that connect Fauvel to Edward II:

The offspring of Edward II … would destroy the Capetian realm if they were to inherit it. And this takes on added significance set against a passage concerning the Antichrist in the *Chronique métrique*. Two clerks visiting Paris foretell the end of the world, reporting that the Antichrist is already born. This tale is prominently placed under the year 1312, which was also the marked by the birth of Edward’s eldest son.77

74 Ibid., 600.
75 Ibid., 610.
76 Ibid., 610.
77 Ibid., 611.
It is in light of this information that the motets in fr. 571 should be re-evaluated. There is, however, one final piece of background information that must be covered before returning to them: this is the problem of Aquitaine.

**VI.6.15 — Aquitaine**

The duchy of Aquitaine, a fertile territory comprising roughly the southwest corner of France, passed into English control in the mid-twelfth century with the marriage of Eleanor of Aquitaine to Henry II of England. Thereafter, the English eagerly cultivated it for their own use, and the French hungered to reclaim it for theirs. From this point until the conclusion of the Hundred Years War in 1453, the issue of Aquitaine was the thorn in the side of Anglo-French relations. As the marriage contract to wed Edward and Philippa was being negotiated, relations between England and France were defined by the Treaty of Paris, signed in 1259, that made the English king a duke and a peer of France, and obliged him to “render liege homage for the duchy to the French king.”

In the years immediately following the death of Philip IV, Edward II—increasingly preoccupied by domestic problems, and also increasingly hostile toward the French—failed to keep this agreement. As tensions between the French and English mounted, Charles de Valois began to urge Charles IV to take action against the English. The opportunity to do so presented itself in the summer of 1324, when a local skirmish erupted into war. The English were ill prepared to fight, and the French forces, led by Charles de Valois, quickly won what is now called the “War of Saint-Sardos.” When it was all over, Charles IV summoned Isabella to France to help negotiate the peace treaty. Isabella’s departure for France in March of 1324 set into motion a series of events that ultimately led, not only to the marriage of Edward of Chester to

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78 This discussion is based on the much more substantial exposition in Wathey, “Marriage of Edward III.”
Philippa of Hainaut and the compilation of fr. 571, but also to the deposition, and shortly thereafter, to the death of Edward II.

Relations between Edward II and Isabella were already strained before the outbreak of war in 1324. When hostilities began, Isabella’s properties in England were seized and her French chaplains arrested. By the time Isabella sailed for France, the Despensers—the father and son pair who were the most powerful barons in Edward’s court—were preventing her from even seeing or speaking to Edward. Isabella could not have been very happy about this situation.

The treaty, nevertheless, was negotiated, sent back for ratification to England, and duly signed. Among its stipulations was the requirement that Edward II immediately go to France and render homage before Charles IV. The Despensers, whose sway over the king had by then become a monopoly, prevented Edward from going, and so Edward sent the crown prince, Edward of Chester, who arrived in Paris in September of 1325 to render homage at Notre Dame.\(^79\) When it was all over, Isabella told Edward that she would not return to England unless he expelled the Despensers from court and returned her property. When he refused, Isabella formally broke with him and began to seek a marriage for Edward of Chester, who was suddenly in her sole custody.

To be able to negotiate the marriage of the future king of England remade Isabella into a very powerful woman overnight. As queen of England, daughter of Philip IV, and sister of Charles IV, she had been guest of honor since her arrival in France six months earlier, but now she had the power to deal, and it looks like deal she did, because when the negotiations to marry Edward of Chester to Philippa were over, Isabella mounted a war party and sailed back to

\(^{79}\) “On 4 September, the French king agreed to accept the homage of Edward’s eldest son, Edward of Chester, in his father’s place. The prince was thus invested as Duke of Guyenne and Count of Ponthieu and Montreuil. He sailed from France a few days later an on 24 September performed homage in the Cathedral of Notre-Dame at Paris”; Wathey, “Marriage of Edward III,” 4.
England with Philippa’s uncle in charge. Significantly, the money it took to finance this expedition came from Philippa’s dowry.  

What happened next, of course, is history: the Despensers were executed, Edward II was deposed, and on 29 January 1327, his son was crowned Edward III. It is against this backdrop that the motets and the *Fauvain* should be projected.

**VI.6.16 — Conclusion**

Near the end of his 1992 *JAMS* article, Andrew Wathey—also revisiting the two motets in fr. 571 after laying out the history of the manuscript and the people behind it—suggested that by 1326 the motets might have been freed from their original significance, and that “in new hands their texts could be turned to speak quite new messages.”  

And indeed they were. Earlier in the article, Wathey had expressed the idea that by changing names in the motetus (from *Philippe* to *Louis*), the first motet served to remind both parties to the marriage that the couple being engaged were both descended from Louis IX, but the change of names may have in fact have had a very different purpose. It turns out that Isabella’s uncle, Louis d’Evreux and his retinue were present at the christening of Edward III on 16 November, 1312, and “wanted the boy named Louis after Philip IV’s grandfather, but the English Earls objected.” The change of names might therefore have been meant as an implicit challenge to Edward, who did indeed see himself as rightful heir to the French throne. And it is in this light that lines seven and eight of the motetus take on a new meaning: “Aggredere gentem paganorum; spopondisti! Nunc accelera te [Attack the race of pagans; you have promised, now go!]” If the motet was originally written

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80 “The proceeds of [Philippa’s] dowry would finance the invasion of England and her paternal uncle, John of Hainault, one of the most renowned warriors of this time, would provide an experienced and prestigious commander of the expedition”: Fryde, *Tyranny*, 182.


for Philip V while he was king (1317-22), then in fr. 146 these lines would refer to the promise that Philip IV’s sons made at their knighting in 1313 to resume the crusades. In fr. 571, they were probably meant as a not-so-subtle message to Isabella and Edward to return to England, and to watch their step.

It is worth recalling that by August of 1326, Isabella had been in France for a year and a half, and Edward, close to a year. Even though Isabella was older sister to Charles IV, king of France, she was still the queen of England, and it is not hard to imagine that, having successfully negotiated the peace treaty, the homage, and now the marriage, her welcome was wearing thin. It is in this light that the command *Nunc accelera te* takes on new meaning. So too the instruction *Aggredere gentem paganorum*, which likely referred to the Despensers, who stood between Isabella and her estates in England. If this were the real intent behind the insertion of *Ludowice* into fr. 571, then it was a brilliant *double entendre* that Isabella and Edward would certainly have understood—even if the official line of the Valois clan was that the motet was only meant to be a reminder and celebration of Edward’s and Philippa’s illustrious ancestor.

But if the message in *Ludowice* was meant to be subtle, that of *Qui secuuntur* was not. Charles de Valois had died in December of 1325, shortly after proposing the union of Edward and Philippa, and upon Charles’ death, his son, Philip of Valois became elder of the clan. In August of 1326, as the marriage contract was being signed, Charles IV—the last of the Capetian kings—had no male heir: were he to die before fathering another son, the crown would pass to Philip of Valois.

The crowning of Philip of Valois would certainly have been challenged by Edward III, whose lineage put him closer to the throne than that of Philip, and while the French were not about to place the king of England on the throne of France, Edward still had the ability to cause
trouble. Given the enmity that Charles de Valois felt towards Edward II—and which his son Philip probably shared—the triplum of *Qui secuuntur* was probably meant as a reminder of what becomes of people who overstep their bounds. Or, to put more it bluntly, as Marigny’s transgressions ultimately cost him his life, so might Edward III’s. It is with this history in mind that the unusual accidentals in fr. 571 take on new meaning.

For much of this study, unusual accidentals have appeared in music that is in some sense sacred, whether liturgical (the Kyrie and Gloria from Durham), extraliturgical (Marchetto’s motet), or ceremonial (as in the two Venetian motets). And in some of these works, there is reason to ask whether these accidentals were meant to highlight important words in the text: *rex* in the Durham Gloria; *virgines palacio* in *Mundi dolens*; *exaudi* in *Ave corpus sanctum*.

In looking at the fr. 571 recension of *Qui secuuntur*, it is apparent that the unusual accidentals also highlight important words, but with a key difference. The concepts they spotlight—the smooth flatterer who utters lies (*adulator blandus*); the prince who tramples (*grassari*) his subjects; the purging of slanderers (*iuste deus detractores lue*)—are the opposite of sacred. If there is irony here, it seems to have been intentional.

There is also a notational and textual opposition between the two motets that likewise seems deliberate. I have already noted that the sole three-stroke *b-quadratum* in *Ludowice* occurs in the penultimate measure at the word *sancte*: this short but dissonant sonority inflects a text expressing the need to live by the precepts of sanctity and holiness, given the brevity of life. This situation is reprised in the last three measures of *Qui secuuntur*, though no longer as an admonition: it instead depicts the consequences of living a life of evil. The sonority at measure 41, if it was signed so as to be deliberately out of tune, must represent the screams of the tyrants as they were cast into hell.
This raises a final question about the imperative *spopondisti*, which David Howlett translates as “you have promised.” While accurate, the verb *spondeo* connotes much more than a simple promise: it signifies the making of a solemn vow, and it is not a coincidence that its substantives, * sponsus* and * sponsa*, signify bridegroom and bride. What then was the solemn vow made in the text of the first motet?

In the context of fr. 146, it was the vow to lead what would have been the ninth crusade to the Holy Land; for fr. 571, it might have a promise that, in return for the marriage—and perhaps crucially, for Philippa’s dowry—Isabella would renounce Edward’s rights to the French throne. But because no documents survive that explicitly record this *quid pro quo*, it’s possible that Isabella somehow avoided making such a promise. Indeed, the thinly veiled threats in the two motets suggest that no such deal was ever negotiated.

Moreover, Isabella probably understood that once Edward came of age, she would not be able to control his actions. And indeed, when Edward seized power from his mother in 1330, he had her lover, Roger Mortimer, executed and Isabella placed under house arrest. Thereafter, his attitude toward the French grew more and more antagonistic until war again broke out in 1340.

**VI.7 — The Four-Stroke Square-b**

**VI.1 — *Iesu fili* / *Ihesu fili veritatis* / *Iesu lumen***

*Iesu fili Dei* / *Ihesu fili virginis* / *Iesu lumen veritas* (hereafter, *Iesu fili Dei*) (GB-DRe MS C.I.20, f.2r) is an anonymous three-voice English motet with a middle-voice tenor. It is one of three motets examined here that features both a middle-voice tenor and unusual accidentals; the other two are Marchetto’s *Ave regina* / *Mater innocencie*, and the anonymous *Ave corpus*
It may be significant that the fa-mi-fa motion of the tenor in the coda of *Iesu fili Dei* (mm. 61-63) resembles that of the coda in *Ave regina*.

<table>
<thead>
<tr>
<th>b/2</th>
<th>d/4</th>
<th>g/7</th>
<th>i/9</th>
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There are ten signed accidentals in *Iesu fili Dei*: six *b-rotundi* and four *b-quadrati*; all of the *b-quadrati* are unusual. There is one pair with three diagonal strokes (*b/2; d/4*), and a second (*g/7; i/9*) with four diagonals (see Fig.VI.31 above). The counterpoint is simple, with a tenor that moves in an unbroken sequence of three longs plus long rest. During each of the fifteen measures in which the tenor rests, the triplum and motetus engage in a duet whose rhythms are more animated than those of the three-voice writing.⁸³

These duets are alike in two important ways. First, their melodies move predominately—sometimes exclusively—in chains of sixths, progressing sixth-to-octave only as they move to the

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⁸³ Usually some combination of two eighth-notes and two pairs of triplet eighth-notes.
next perfection. Second, of the fifteen places where these duets occur, thirteen resolve either to an F or to a G sonority, and all four \textit{b-quadrati} occur in one of these duets.

Each time they are signed, the pitch inflected is always bmi, and the inflection always occurs somewhere in the middle of the duet, not in the sixth to octave progression at the conclusion. This is significant because, in all four cases, that resolution is either to G or to F. To explain this in slightly different terms, the two-voice sonority in which each inflected bmi occurs is but one of a series of parallel sixths in the midst of a chain of parallel sixths that does not resolve to C. This is reminiscent of the two-voice polyphony in the roughly contemporary Italian manuscript Rossi 215, in which inflections occur mid-stream (as it were) rather than at the closes.

More puzzling are the four-stroke \textit{b-quadrati}. We have seen them before in the diagram from the Case manuscript, in which the legend following the four-stroke \textit{b-quadratum} indicates that this $\left[\frac{\text{4} \text{\par tes}}{\text{4} \text{\par tes}}\right]$ is the sign of the chromatic semitone, (thus representing four-fifths of the tone). The diagram, however, shows it crossing the diameter at $\bullet 8 \bullet$, and thus dividing the tone into eight-ninths parts. Yet the two four-stroke \textit{b-quadrati} in Iesu fili Dei (\textit{b/2} and \textit{g/7} in the edition) do not signal direct chromatic motion; instead, the first progresses c-bx-a, and the second, d-bx-c. What’s more, in both cases, b is shortly thereafter inflected with a three-stroke square-b. Similarly, the Case diagram indicates this sign $\left[\frac{\text{3} \text{\par tes}}{\text{3} \text{\par tes}}\right]$ signals three-fifths tone, (and names it \textit{dyatonicum} as per Lucidarium), yet it crosses the diameter at $\bullet 6 \bullet$, and splits the tone into one-third, two-thirds tone.

84 There are seven resolutions to F (mm. 4, 16, 24, 28, 40, 52, 60) and six to G (mm. 8, 12, 20, 44, 48, 56); the remaining two occur in mm. 32 (to D) and 36 (to C).
85 “cromaticum continet $\bullet 4 \bullet$ partes $\bullet$(ie)$\bullet 4 \bullet$ quintas”; see Chapter II, Figs. II.6 and II.7.
86 “dyatonicum continet $\bullet 3 \bullet$ partes $\bullet$(ie)$\bullet$ tres quintas.”
Setting the Case diagram aside—since it does not seem to apply here—if my interpretation of *Pomerium* 4 is correct: i.e., that this sign \[ \text{\textcopyright} \] = \[ \text{\textcopyright} \], then it may be that dividing the quadrangle into three parts signals a division of the tone into one-third and two-thirds parts, or *semitonium* and *semitonius*, as per the *Tonus dividitur in 3 partes* from the Berkeley manuscript.\(^87\)

* * * * *

Regarding the duets of *Iesu fili Dei*, of the seven that resolve to F, six progress sixth-to-octave, and because the semitone e-f is *recta*, no inflection is necessary to make these sixths major.\(^88\) But for the six duets that resolve to G, the step f-g is a whole tone, and if the cadential semitone that occurs without alteration in progressions to F was also desired in progressions to G, then a *ficta* alteration (i.e., fmi-g) would have been necessary to create them, and—at least at this point in music history—the manuscript is dated to the mid-fourteenth century—might have been indicated with an accidental.

Yet in none of these six places is there an accidental inflecting fmi, including the three duets in which bmi is signed with a three- or a four-stroke *b-quadratum*. This suggests a continuing affinity for “open” and “close” endings (G and F, respectively) at a point where an interest in “cadential feeling” was one of the distinguishing traits that separated the *Ars nova* from the *Ars antiqua* and led to the blurring of the church modes as a means of describing the behavior of polyphony.\(^89\)

\(^87\) Discussed and illustrated in Chapter II, II.3.

\(^88\) See mm. 4, 16, 24, 40, 52, and 60; the seventh (measure 28), progresses octave to tenth.

\(^89\) “A second problem, arising in the *Ars nova* of the 14\(^\text{th}\) century, was the growth of a cadential feeling, emphasized within the music by the use of a raised leading tone, the *mi-fa* relationship now acting as the determinant of a resting point. Where the older plainchant had allowed the sub-final to remain without alteration and to retain a *mi-fa* form to the final in only Modes V and VI, the new approach was to give this half step feeling to cadences in all modes, thus, in a sense, destroying certain modal characteristics in favor of the goal of cadential feeling.” Albert Seay, “The 15th-Century *Coniuncta*: A Preliminary Study,” in *Aspects of Medieval and Renaissance Music: a Birthday Offering to Gustave Reese*, ed. Jan LaRue, 723-37 (New York: Norton, 1966), 725.
Just as intriguing is the evidence of a sophisticated use of melodic inflection in which two micro-intervals were interleaved in the music. This gives some credence, moreover, to the picture of a modal yet also fluently enharmonic thirteenth-century practice extending into the fourteenth.

**VI.8 — Chapter Conclusion**

I consider the three-stroke *b-quadrati* with a non-parallel medial diagonal to be equivalent to those with a parallel third diagonal, and have made my reasons for arriving at this conclusion clear since the beginning of this thesis.

Use of this sign in the Durham *Kyrie* raises the question of an intent for non-Pythagorean inflection, though there is no way to confirm this as a specific instance. Perhaps a more convincing example is the use of this sign in the Durham *Gloria* to inflect the passage “*domine deus rex celestis* [Lord God, *King* of Heaven].” The *Gloria* is, of course, a text filled with superlatives, yet the use of the non-parallel three-stroke sign to inflect *rex* points to a special significance. It is noteworthy also that the pitch inflected—fmi—is elsewhere in this same piece of music inflected by the parallel three-stroke sign, and the normal two-stroke sign, and that while there are three signs of the parallel variety, there is just one of the non-parallel signs, *k/11*, which inflects *rex*.

The first of the two motets from the Las Huelgas codex, *Mundi dolens*, is perhaps the best evidence so far in favor of the parallel variety of three-stroke signs having a special significance:

In discussing open and closed endings, Lucy Cross makes a useful observation: “There is another type of melodic relationship between pitches that can be found in monophonic music as well as in polyphony, the *aperto-chiuso* or *ouvert-clos* pattern. In fact, the E in the Tenor of the Gerona Sanctus functions very much as an “aperto” to the “chiuso” of the D. To maintain this is not to adhere to any system described in medieval theory, but simply to observe the tendencies of the melody as emphasized by duration and enhanced by counterpoint, the sense of incompleteness of the descending scale at the pause on E, and the sense of finality as the scale reaches D”; “Chromatic Alteration,” 140-41.
the same pitch—fmi—inflected first by a normal square-b, and then a three-stroke sign of the parallel variety. Combine this with a text praising the inviolable nature of the Virgin Mary, and the text so inflected, “virgines palacio,” occurring at the golden section of the motet, and the evidence is strong.

More problematic is the testimony of *Flos de spina*. This two-voice conductus-motet and its sources, in particular the recension in the Florence *magnus liber*, are the first inkling that the phenomenon of enharmonism had crossed over from plainchant to polyphony by the mid-thirteenth century, and that the two unusual signs in the Las Huelgas recension are an early fourteenth-century means of indicating non-Pythagorean intervals that may have been in use in the second half of the thirteenth century but which were not indicated by a dedicated accidental sign. The fact that the three-stroke square-b [\(\text{\textcopyright}\)] appears in *Hu* where the compound sign [sqb+rd] appears in *F*, and that in *fr.571*, this sign [\(\text{\textcopyright}\)] and this [sqb+rd] signal the same inflection and therefore appear to be equivalent in significance—if not indeed have to be—is evidence that non-Pythagorean inflections were in use in polyphony long before Marchetto’s *Lucidarum* was written. The fact, also, that in *Flos de spina*, the unusual signs—whether in *F* or *Hu*—inflect “Verbum Patris,” the word of God—suggests that this inflection had a very special significance.

This is not an argument that could be sustained in plainchant, where a look at *Dij 1* shows such inflections used in ways that, while clearly related to the musical rhetoric, were not connected to it in any clear textual sense.

Yet the use of [sqb+rd] and [\(\text{\textcopyright}\)] in *Flos de spina* suggests that when non-Pythagorean inflections were incorporated in polyphony, the signs brought with them a sense of something special, even sacred.
Marchetto’s testimony in *Pomerium* 4 that *falsa musica*, whose practical form may be this sign [书面字符], is the underpinning of this chapter. The clearest indications that the unusual *b-quadrati* have some special significance is their use in the fr. 571 recensions of the two motets from *Fauvel*. If the use of *diesis* in polyphony came from plainchant, and if it brought with it a sense of something sacred, then to have used this sign [书面字符] in *Ludowice / Servant regem / Rex regum* to inflect *vivat sancte* (i.e., to live holily) as a bit of advice to Edward of Chester—and almost certainly also to his mother, Isabella of France—was to have held up a mirror to them, reminding them of the sacred bonds of kinship in which they had now entered. The concluding line—a king is here today and gone tomorrow—might well have been interpreted as an indication that there would be consequences to violating this bond.

In the following motet, *Qui secuentur / Detractor est / Verbum iniquum*, those consequences are made explicit in fearsome terms: he who violates this sacred trust—now clearly a reference to Edward—will have his treachery repaid by condemnation and death.

We do not know whether Edward ever read—or even leafed through—fr.571, his “mirror of princes.” But perhaps the inclusion of those two motets from the *Roman de Fauvel*, fr.146, and the way in which this sign [书面字符] was used to call attention to specific words in their texts, would not have been lost on him.
Chapter Seven

Unusual Accidental Signs with Dots

VII.1 — Introduction

Of the three types of unusual accidental signs, those with dots are the most varied. They are also graphically the most interesting, and without a doubt, the most challenging to puzzle out. In Chapters V and VI, my conclusions about the signs involved and their effect upon the music inflected were based on what Marchetto says about *musica colorata* in *Lucidarium* and on his statements regarding *falsa musica* in *Pomerium*. In both Chapters, the simple fact that Marchetto tells us these signs indicate a microtonal inflection was enough to suspect, *prima facie*, a microtonal intent for any instance of either. This does not constitute proof, of course, but in combination with the analytical tools that I developed over the course of these chapters—“anomalous use,” and the coincidence of an unusual sign and a significant concept in the text (see, for instance, *san-cte* in *Ludowice*)—I began to see in the music what appeared to be the application of the practice Marchetto was theorizing about in *Lucidarium* and *Pomerium*. (An especially clear example is the opening four-voice sonority of *Ave corpus sanctum*, where the text “Exaudi!”—i.e., Listen up!—is inflected with *musica colorata*, the third doubled in both contratenor and highest voice, and the sonority left to sound for a full perfection.)

In the absence of anomalous use or the coincidence of unusual inflection and significant text—or both—I chose to leave some pieces in the analyses with a question mark—*Marce Marcum imitaris* for example, in which all four accidentals are unusual, there is no anomalous use, and the inflections seem more structural than rhetorical. This does not mean its accidental
signs don’t indicate what Marchetto says they do, just that it’s not possible—at least for the moment—to be sure of that.

A second problem is that of simultaneous conflicting signs, such as those in the Durham *Kyrie*. In this work, an unusual sign in the highest voice is set against a normal sign in a lower voice, and this circumstance therefore argues against the proposition that the unusual signs inflect non-diatomic pitches. But elsewhere there is evidence that these signs do just that. In pondering what to do about this conundrum, I decided that the strength of Marchetto’s testimony was sufficient to leave this work in while pending further study.

* * * * *

What separates the studies in Chapter IV from those of the previous two chapters is that it has been necessary to proceed without the benefit of eyewitness testimony regarding the significance of dotted accidentals. This includes the Berkeley manuscript which, while it clearly describes a non-Pythagorean division of the tone and illustrates its examples with dotted signs, its incomplete nature, and the fact that signs of different design also appear in some of the music examples, means that it is not possible at the moment to use it as the basis of proof. This in turn meant is that it would be necessary to base any assessment of whether a particular dotted sign signals a microtonal interval primarily on the circumstances of its use in context.

For the two sets of music analyzed in the current chapter, the five two-voice antiphons from the Padua *Processionales* C55 and C56 (hereafter C55/56) and the recension of Ciconia’s *Sus une fontaine* and its sources from the fragment Padua A (hereafter Ox 229), the evidence was a remarkable correspondence with Marchetto’s examples of permutation in *Lucidarium* for the former, and the simultaneous combination of anomalous use and the use of non-diatomic pitches.
that inflect key words in the text Ciconia quotes from the ballades of Filippotto da Caserta for the latter.

It’s important to note that these two sets of music were chosen because for both a strong case could be made that their dotted signs were meant to signal non-diatonic pitches. It is likewise important to say that the choice to examine these six pieces was not made following an exhaustive search of the source material and a decision made as to which pieces it would be best to analyze—there is simply too much material to have made such a search possible.

Nevertheless, the two sets serve as a good introduction to the phenomenon: the first set with its para-liturgical texts and seemingly very early date; and the second fully secular and making use of a kind of winking irony.

* * * * *

Before turning to the analyses, it is necessary to consider the manuscripts that transmit music with dotted signs, and to put them in perspective with the other two types of unusual signs, both in historical context, and in the view of musicologists from the late nineteenth and the twentieth centuries.

The sources that transmit music signed with dotted accidentals are not much greater in number than those that transmit music signed with falsa musica or musica colorata; the amount of music they present, however, is vastly greater. Prospectus I, Fig.VII.1 below, is a summary of these manuscripts and a tally of their dotted accidentals.
What is clear from the Prospectus is that dotted accidentals were in use throughout the fourteenth century and well into the fifteenth. It locates one center of use in northern Italy—principally in Padua—at the end of the fourteenth and beginning of the fifteenth century, and a second, earlier center in the Low Countries in the first half of the fourteenth century, suggesting that the phenomenon of dotted signs may have begun in the North. If the copying of the early motet codex I-Tr vari. 42 (now in Turin, but originally from Liège or vicinity) was concurrent with that of the interpolated Roman de Fauvel, as Mark Everist has recently indicated, then its dotted signs would be roughly coëval with musica colorata and falsa musica. The fact that Marchetto does not mention dotted signs further suggests the phenomenon may have originated in the north and migrated south: somehow a dotted sign made its way into the recension of Ave corpus sanctum, composed 1329-39 (though the manuscript could have been copied at a much later date).

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1 The number of dotted accidentals cited here does not include normal $b$-quadrati (i.e., those with no dots), even though the work in which they are signed might also contain $b$-quadrati with dots. Neither do these numbers reflect the considerable number of signs that have dots, but whose precise count cannot be determined for a variety of reasons. The difficulty of distinguishing whether a “dot” is in fact the intentional addition of the scribe or is due to some other factor cannot be overstated. When in doubt, I have given the accidental “questionable” status, and left it out of the count.

And while it is not surprising to find dotted accidentals being used to inflect Franco-
Italian repertoire of the late fourteenth and early fifteenth centuries in the manuscripts Ox 229,
Pr, and ModA, it is perhaps surprising to find dotted accidentals—primarily in Q15 but
even in EscA—inflecting the music of Dufay, Binchois, Dunstable, and Power, who were
by the 1420s composing what we now consider to be early Renaissance music. However
unexpected it may be, this suggests that as the musical style of the Ars subtilior was giving way
to that of the early Renaissance, its system of intonation—and possibly its use of microtonal
inflection—persisted into the 1430s and perhaps beyond.³

* * * * *

In what follows, I provide a history of dotted accidentals—such as it is possible to
reconstruct—followed by a series of visual indices in which images of dotted accidentals from
the nine manuscripts listed above are arranged in descending order by number of dots and
accompanied by explanatory text. A synoptic index collating the signs of seven of the nine
scribes of the Reina codex is included, plus a final index illustrating how difficult it can
sometimes be to count dots in every circumstance, despite the considerable resources of today’s
high density digital photography. This introduction is followed by a discussion of those scholars
who have argued either for or against the possibility that the dots have intonational significance,
or who have otherwise contributed to the discussion of dotted signs.

Following this pair of introductions, I focus upon six works from two manuscripts of the
early fifteenth century: five works from the Padua Processionales, and the sixth from Ox 229—
Ciconia’s Sus une fontaine. The first set were chosen because of their use of dotted accidentals

³ Q15, because of its unique history of compilation, reorganization and re-compilation, appears to pinpoint the
heyday of the dotted accidental in Northern Italy: of the 266 accidentals with one or two dots, 239 occur in Stage I,
copied during the years 1420–25. In all of Stages II–III, copied between 1430 and 1435, there are only 27 dotted
accidentals. For more detail regarding the compilation of Q15, see Margaret Bent, Bologna Q15: The Making and
that inflect direct chromatic progressions such as Marchetto illustrates in *Lucidarium*. Moreover, there is the appearance in these works that chromaticism and microtonality were used for rhetorical purposes.

I chose the sixth work, Ciconia’s *Sus une fontaine*, because its dotted accidentals correspond to those in two of the quotations that Ciconia borrowed from the ballades *En remirant vo douce pourtraiture* and *En attendant souffrir m’estuet* of Filippotto da Caserta. My examination of the sources of the two Filippotto ballades shows *musica colorata* (in Ch) and dotted *musica colorata* (in Reina) inflecting what Ciconia uses a dotted square-b to inflect in the Ox 229 recension of *Sus une fontaine*. These suggest that non-Pythagorean intonation may also have been part of Filippotto’s tonal vocabulary. Moreover, in the Modena concordance of Filippotto’s *En remirant*, there is evidence suggesting that an unusual sharp indicates non-Pythagorean intonation. Anne Stone has already suggested that Ciconia’s use of quotation in *Sus* had a particularly ironic intent; in my analysis, I argue that his use of dotted accidentals and microtonality at crucial places in his borrowed text and music audibly heightens that effect.

Chapter IV therefore opens with a detailed discussion of dots and dotted accidental signs, including images of their considerable variety, and the manuscripts than contain them. It closes with a summary of the evidence for non-Pythagorean intonation in the works examined, and in a number of works from manuscripts mentioned but not analyzed.

**VII.2 — History and Background of Signs with Dots**

The round- and the square-b were already nearly three hundred years old by the early fourteenth century, but it now seems that a third accidental sign—*falsa musica*—as it happens, did not appear until sometime in the thirteen-teens. Marchetto must have created *musica colorata* at almost the same time, though not later than 1319. If the insertion of dots in accidental signs
was coincident with the copying of fr. 146 (c.1317-20), then all three signs began to be used within a span of roughly ten years.

These new signs quickly appear in manuscript sources. The earliest may be the dotted signs in the Turin codex, while both falsa musica and musica colorata are found in the Las Huelgas codex (c.1318-25), and falsa musica in F-Pn fn.fr.571 (the “Wedding Album of Edward III,” 1326-27).\(^4\) Within another decade or so, both a dotted sign and a series of musicae coloratae appear in Ave corpus sanctum, from the now-lost Venetian fragment I-Vmg, c.1329-39.\(^5\)

Two other sources with dotted accidentals also argue for an early fourteenth-century date, even if the manuscripts themselves are later: a) the so-called Mass of Tournai (B-Tc A27 or Tc), compiled in the Diocese of Tournai sometime around 1350\(^6\); and b) the Padua Processionales, (I-Pc C55/56, or C55/56), a pair of nearly identical fifteenth-century copies of—probably—a fourteenth-century exemplar from the Cathedral of Padua.\(^7\) Images of the accidentals from each of these manuscripts are shown below in VII.2.2–VII.3.6.

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\(^4\) See Chpt.V.

\(^5\) There are only two motets in this fragment, of which only the first, Ave corpus sanctum, is complete. Transcription and facsimile in Gallo, *Du un codice*, 36-44 & Tav. I-IV; and facsimile, only, in Gallo-Vecchi, *I più antichi*, Tav. CXXXII-CXXXIV. Modern edition in *Italian Sacred Music*, ed. Kurt von Fischer and F. Alberto Gallo, PMFC vol. 12 (Monaco: Editions de l'Oiseau-Lyre, 1976), 133-137.  

“As Franciscus Dux, mentioned in the triplum text … must be identical with Francesco Dandolo, who reigned as Doge from 1329 to 1339, the motet must have been written within these years”; ibid., 203.  

The facsimile shows the foliation of Ave corpus sanctus beginning on fol. LXXXV, suggesting that the original manuscript must have been of considerable size. Unfortunately, even these last two folioes have now been lost; see Chpt.V, n. 46.

\(^6\) The Mass is a compilation, and its parts suggest different dates of composition: “The Kyrie, Sanctus and Agnus Dei appear to be the oldest layer, using 13th-century modal rhythm, while the Gloria, Credo and Ite missa est employ newer Ars Nova conventions in terms both of notation and of rhythm”; Anne Walters Robertson, *The New Grove*, 2nd ed., s.v. “Mass of Tournai.” Huglo, in his introduction to the Dumoulin/Mercier study, facsimile, and edition of the Mass, dates its compilation to “the middle of the fourteenth century” but does not suggest dates for its newer and older layers; see *La Messe de Tournai: une messe polyphonique en l'honneur de Notre-Dame à la Cathédrale de Tournai au XIVe siècle: étude et nouvelle transcription*, ed. Jean Dumoulin, Michel Huglo, and Philippe Mercier, (Tournai: Archives du Chapitre Cathédrale, 1988), 21.

\(^7\) While the *New Grove* article, “Padua,” indicates C55 and C56 were “compiled between 1407 and 1472,” the statement that the repertoire transmitted therein is “a body of 13th century rites and melodies” probably refers to the plainchant, and not to the polyphony (and its dotted accidentals) with which I am concerned; see *The New Grove*, 2nd ed., s.v. “Padua,” (Pierluigi Petrobelli and Sergio Durante).
The second of these two sources, C55/56, is a pair of identical manuscripts primarily containing plainchant, but which also transmit two short pieces of *cantus planus binatim* and three short two-part songs in early fourteenth-century Italian mensural notation; all five are signed with dotted accidentals. It has been suggested that the mensural polyphony in C55/56 was composed by Marchetto, but there is no way to confirm this.\(^8\) It is possible that the *cantus planus binatim* of the Purification Office was already extant and in use at the Cathedral while Marchetto was Master of the Boys there during 1305-06,\(^9\) but this seems unlikely. What does seem to be true, however, is that the manuscripts are much later than the music they transmit.\(^10\) While I initially had difficulty believing this, the modified sharps and the fact that the dotted sign only really flourished in Padua after c.1400 makes this more credible than the theory that the two mss.

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\(^8\) Following his discovery of the acrostic “MARCVM PADVANVM” in the duplum of the motet *Ave regina / Mater innocencie*, F. Alberto Gallo attributed the mensural polyphony in C55/56 to Marchetto; see “Marchettus in Padua,” 52.

Jan Herlinger has since countered that “attributions of other compositions to [Marchetto] on the basis of stylistic similarity to [Ave regina] or correspondences with theories expounded in his treatises are conjectural”; see *The New Grove*, 2nd ed., s.v. “Marchetto da Padova.”


\(^10\) See n.7 above.
and their unique signs are c.1300, which they would have to be if Marchetto was somehow associated with them. What’s more, given that permutation seems not to have been practiced until the late thirteen-teens, its presence in Ave gratia and the three so-called Ascension songs suggests that they could not have yet been composed when Marchetto was last known to be in the employ of the Cathedral in 1306.

* * * * *

Dotted accidentals disappear from the manuscript record during the second half of the fourteenth century. Whether this was because the dot fell out of use during this time, or whether it was due to the loss of manuscripts in the aftermath of the outbreak of plague in Italy in 1347, is unclear. They are next seen in manuscripts of the first decade of the fifteenth century, and then they appear in considerable numbers, as Prospectus I demonstrates. In particular, the Reina codex is a vast collection of Italian and French music, the first two parts of which are inflected with dotted musicae coloratae, and the third with the “swung sharp,” which also has microtonal significance. But it is the combined circumstances of a long-standing tradition of enharmonic plainchant in the vicinity of Liège, Ciconia’s early musical training there in the 1270s and 1280s, and his emigration to Padua in 1401 that raises the question of whether he had anything to do with the flourishing of the dotted accidental sign that occurs in the Veneto at precisely the same time. It is also noteworthy that the five Mass Ordinaries that are confirmed to be by Ciconia in Bologna Q15 (as well as a sixth opera dubia) are all signed with dotted signs, whereas his motets are not. Did the dots signal a connection between the strictly liturgical text of

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11 See Fig.VII.52 for an illustration of the “swung sharp.”
12 See Ferreira’s discussion of the Missal from Stavelot, Belgium, which he states “was recently shown to record the same kind of minute melodic inflections called for by DIJ 1 (the Dijon Mass Tonary) and CLU 1 (the Cluny Gradual); “Music at Cluny,” 127. Stavelot is a small city about twenty-five miles southeast of Liège, and within its diocese.
plainchant and the ordinary of the Mass that was deemed inappropriate for the secular texts of his motets?

Also fascinating is the use of dotted signs to inflect the early masses of Dufay in Q15. Dufay was some thirty years Ciconia’s junior, but also a Franco-Fleming, like Ciconia. Though we consider him to be a figure of the early Renaissance, we should examine his works in Q15, which must date from about 1420, for the possibility of microtonal inflections as well.

* * * *

Dotted signs are last found in the manuscript EscA, a Netherlandish ms. of Burgundian chansons. By the fifth decade, dotted accidentals have again disappeared from the record, this time for good.

**VII.2.1 — Visual Index I: By Number of Dots**

Two factors distinguish dotted accidentals from *musica colorata* and from the unusual forms of the *b-quadrati*. The first is the range of dots, which vary from zero to four. (It may sound awkward to speak about the normal square-b as having “zero dots,” but the number of works in the nine manuscripts under consideration that mix both normal and dotted *b-quadrati* make this necessary.) The second factor is that dots are found, not only in *musica colorata* and the square-b, but also in signs for which there is no name. Both of these can only be fully appreciated by seeing them, hence the following five figures.

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13 See Prospectus II; (Fig.VII.7.656).
14 Beneath each image is a short string of information indicating: a) the manuscript in which it appears (using its abbreviated name); b) the inventory number of the work; and c) its folio, line number, and order of accidental.
Signs with four dots are the most numerous. They are found in seven of the nine manuscripts, including the earliest (Tu) and the most recent (EscA). Their shapes include: square-b (i, v); musica colorata (iv); those that are neither clearly square-b nor musica colorata (vi, vii); and two unique shapes (ii, iii).

Signs with two dots are the next most numerous. They, too, are found in one of the earliest manuscripts (Tc) and also in the most recent (EscA). Among them is a sharp with two dots, one of which is outside the quadratum (i); there is also an “outside dot” in (ii). The four corners and four sides of the quadratum afford the scribe a variety of places to inscribe the dots, as in (ii, iii, and iv); the scribe of Q15 is unique in having placed “free-floating” dots (v) in his accidentals.
Fig. VII.4: One-Dotted Signs

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<th>i)</th>
<th>ii)</th>
<th>iii)</th>
<th>iv)</th>
<th>v)</th>
</tr>
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<tbody>
<tr>
<td>Tc. 1: 20r.1b</td>
<td>Pr.113: 56v.2a (W)</td>
<td>ModA.93: 45v.1a</td>
<td>Q15.31: A34r.1a</td>
<td></td>
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Signs with one dot are the third most numerous. The sign in Tc (i) is again a sharp (or is sharp-like). Note that the quadratum of the square-b in Q15 (iv) is narrower than that in Fig. VII.3 (v) above. This suggests that the scribe planned the space he needed in advance.

Fig. VII.5: Three-Dotted Signs

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<th>iii)</th>
<th>iv)</th>
<th>v)</th>
<th>vi)</th>
</tr>
</thead>
<tbody>
<tr>
<td>B: Tc</td>
<td>Pr.37: 19r.2a</td>
<td>Ox 229 2: 53v.3b</td>
<td>ModA.87: 42v.9e</td>
<td>Q15.9: A10v.5a</td>
<td></td>
</tr>
</tbody>
</table>

The least numerous signs are those with three dots. With the exception of B-Tc, they are found only in fifteenth-century manuscripts.

Fig. VII.6: Signs with Zero Dots

<table>
<thead>
<tr>
<th>i)</th>
<th>ii)</th>
<th>iii)</th>
<th>iv)</th>
<th>v)</th>
<th>vi)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tc. 3: 28r.2a</td>
<td>Pr.28: 14v.2b</td>
<td>PadA.11: 56v.4a</td>
<td>ModA.96: 46v.2b</td>
<td>Q15.260: 291r.51</td>
<td>EscA.27: 26v.2a</td>
</tr>
</tbody>
</table>
Signs with zero dots are found in six of the eight manuscripts. Again, there is a sharp, or sharp-like sign in Tc (i); a *musica colorata* in Pr (ii); *b-quadrati* in PadA and ModA (iii, iv); and signs that might be called hybrids in Q15 and EscA (v, vi).

* * * *

While the figures above accurately represent the considerable variety of dotted accidentals, they do not give an accurate picture of their numbers relative to each other. This can only be seen in tabular form, as in Prospectus II below; (Fig.VII.7):

<table>
<thead>
<tr>
<th>Siglum</th>
<th>Abbr. names</th>
<th>Dates of mss.</th>
<th>Works with dotted acc.</th>
<th>4</th>
<th>2</th>
<th>1</th>
<th>3</th>
<th>Total # of dotted acc.</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>I-Tr Vari 42</td>
<td>Tu</td>
<td>c.1310-35</td>
<td>16</td>
<td>94</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>94</td>
<td>-</td>
</tr>
<tr>
<td>I-Vmg</td>
<td>Vmg</td>
<td>c.1329-39</td>
<td>1</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>B-Tc A27</td>
<td>Tc</td>
<td>c.1350</td>
<td>5</td>
<td>-</td>
<td>6</td>
<td>6</td>
<td>5</td>
<td>17</td>
<td>10</td>
</tr>
<tr>
<td>I-Pc C55/C56</td>
<td>C55/56</td>
<td>c.1300-1350</td>
<td>6</td>
<td>23</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>23</td>
<td>-</td>
</tr>
<tr>
<td>F-Pn n.a.fr. 6771</td>
<td>Pr</td>
<td>c.1400-10</td>
<td>113</td>
<td>301</td>
<td>20</td>
<td>8</td>
<td>12</td>
<td>341</td>
<td>48</td>
</tr>
<tr>
<td>GB-Ob Pat. Lat. 229</td>
<td>PadA</td>
<td>c.1401-1411</td>
<td>6</td>
<td>37</td>
<td>1</td>
<td>-</td>
<td>1</td>
<td>39</td>
<td>7</td>
</tr>
<tr>
<td>I-MOe αM.5.24</td>
<td>ModA</td>
<td>c.1410-30</td>
<td>23</td>
<td>25</td>
<td>16</td>
<td>11</td>
<td>17</td>
<td>69</td>
<td>17</td>
</tr>
<tr>
<td>I-BC Q15</td>
<td>Q15</td>
<td>c.1420-35</td>
<td>73</td>
<td>-</td>
<td>106</td>
<td>108</td>
<td>8</td>
<td>222</td>
<td>45</td>
</tr>
<tr>
<td>E-E V.III.24</td>
<td>EscA</td>
<td>c.1430</td>
<td>11</td>
<td>15</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>16</td>
<td>8</td>
</tr>
</tbody>
</table>

|               |             |               | 254                     | 496 | 150 | 133 | 43 | 822                    | 135|

As the above makes clear, the number of four-dotted signs outstrips all others combined. They make up approximately 60% of all dotted accidentals, and are found in seven of the nine manuscripts in question, including the earliest and the most recent.

Accidentals with four dots are found in three of the four earliest manuscripts (Tu, Vmg, and C55/56), none of which has any other type of accidental, including those with zero dots. The fourth manuscript (Tc) has accidentals with one, two, and three dots, and about twice as many accidentals with zero dots. Tc, like Tu, is a northern manuscript, suggesting that there may have been competing versions of this phenomenon. Both of the early Italian manuscripts, on the other hand, subscribe to the four-dotted accidental. As to where the phenomenon of dotted accidentals
first arose, the evidence is too thin to support an answer; the most that can be said is that it seems to appear almost simultaneously in both the Low Countries and in Northern Italy.

VII.2.2 — Visual Index II: Variety of Dots by Number

This index focuses on the paleography of dots. Like Index I, the images are arranged in ascending order by date of manuscript, so that for each figure, the oldest image is on the left, and the most recent on the right. Its purpose is to demonstrate the perseverance of the dotted accidental across the span of the fourteenth and into the fifteenth centuries. What the following figures show are a series of scribes engaged in the process of inserting dots into the quadratum of an accidental. It was clearly an idiosyncratic and individual process, but also one that endured across time and distance.

Fig. VII.8: Dots on the Tangent

Placing the dot on the tangent was the most common practice; it is found in the oldest (i-iii) and most recent manuscripts (v-vii) alike.
The scribes of Pr wrote very sharply angled *musica colorata* (i, ii), which necessitated putting the dot in the corners. The scribe of PadA likewise put his dots in the corner, even though his *b-quadrati* were not so narrow. In both Pr and PadA, the dot is sometimes just a loop as in (iii) and (iv); at other times, it can be a triangular shape, as in (iv) and (v). The scribe of PadA often shows irregularities that might be signs of haste, as in the two dots on the left-hand vertical in (iii) above, and in (ii) below.

Sometimes the scribe used a short incise in the corner (i, ii) or on the tangent (iii, iv).
The most distinct of all dotted accidentals are those signs whose four dots create the effect of an “x”-shape in the center of the quadratum: (i-iv). While I doubt that this sign has a separate significance from the other four-dotted signs, it evidently took some practice to get it right—compare (iv) above with (vii) in Fig.VII.8; both signs are the work of the same scribe.

VII.2.3 — Visual Index III: The Scribes of Pr

A quick glance at Prospectus II shows that Pr has both the most works with dotted accidentals (113) and the most dotted accidentals (341) of any of the nine manuscripts. Pr is also unique in that some seven scribes contributed to the compilation of its first two parts.\textsuperscript{15} The most recent examination of the manuscript identifies these scribes as hands S, T, U, V, W, X, and Y.\textsuperscript{16}

The following matrix aligns representative examples of the accidental signs of the most active of these scribes—S, Y, T, W, and U—in vertical columns, with the rows are arranged in descending order by number of dots. (Scribes V and X are not represented on account of their comparatively minor contributions to the manuscript.) By scanning across the rows, it can be seen that, while each scribe has his own preferences as to the proportions of the sign and where to insert the dots, as a whole, these differences are insignificant. In other words, the existence of dotted accidentals in Pr is not the eccentric habit of a single scribe—as it might be, for instance, in Q15—but is clearly part of a larger tradition which it seems was necessary to follow.

\textsuperscript{15} According to Kurt von Fischer’s 1957 study of Pr, Parts I (the first four fascicles; ff.1r–52v) and II (the fifth, sixth and seventh fascicles; ff.53r–85v) were executed by five scribes whom he identifies as hands A-E; see “The Manuscript Paris, Bibl. Nat., Nouv. Acq. Frç. 6771 (Codex Reina = PR),” \textit{Musica disciplina} 11, (1957): 53-77.

Fig.VII.12: Graphic Habitus of the Scribes of Pr

<table>
<thead>
<tr>
<th>Four</th>
<th>S</th>
<th>Y</th>
<th>T</th>
<th>W</th>
<th>U</th>
</tr>
</thead>
<tbody>
<tr>
<td>45:23r.6a (4)</td>
<td>151:72v.3b (4)</td>
<td>31:16v.2a (4)</td>
<td>89:45r.2a (4)</td>
<td>99:50r.1c (4)</td>
<td></td>
</tr>
<tr>
<td>39:20v.4a (3)</td>
<td>136:65v.4c (3)</td>
<td>183:4v.1a (3)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40:20v.5a (2)</td>
<td>141:67v.5a (2)</td>
<td>180:63v.1a (2)</td>
<td>25:12v.8a (2)</td>
<td>86:43v.1a (2)</td>
<td></td>
</tr>
<tr>
<td>42:21v.6a (1)</td>
<td>147:70v.1a (1)</td>
<td>175:51v.5a (1)</td>
<td>124:60v.1a (1)</td>
<td>85:43v.2a (1)</td>
<td></td>
</tr>
</tbody>
</table>
Like the matrices of §§2.1–2.2 above, Fig.VII.12 does not give any idea of the numerical count of each scribe’s contribution to the manuscript as a whole, and so a third prospectus is needed (Fig.VII.13); the outer columns show the number of dots in descending order and the sum of each row, respectively; sT = Subtotal; “?” indicates accidentals left out of the count; T = Total:

* * * *

**Fig.VII.13: Prospectus III**

<table>
<thead>
<tr>
<th></th>
<th>S</th>
<th>Y</th>
<th>T</th>
<th>W</th>
<th>U</th>
<th>V</th>
<th>X</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>4:</strong></td>
<td>135</td>
<td>64</td>
<td>36</td>
<td>4</td>
<td>12</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td><strong>3:</strong></td>
<td>7</td>
<td>2</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>2:</strong></td>
<td>2</td>
<td>3</td>
<td>5</td>
<td>6</td>
<td>2</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>1:</strong></td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>4</td>
<td>1</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>0:</strong></td>
<td>4</td>
<td>17</td>
<td>4</td>
<td>26</td>
<td>2</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>sT</strong></td>
<td>149</td>
<td>88</td>
<td>47</td>
<td>40</td>
<td>17</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td><strong>?</strong></td>
<td>15</td>
<td>35</td>
<td>12</td>
<td>6</td>
<td>-</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td><strong>T</strong></td>
<td>164</td>
<td>123</td>
<td>59</td>
<td>46</td>
<td>17</td>
<td>10</td>
<td>3</td>
</tr>
</tbody>
</table>

For every scribe but one, signs with four dots exceed all the others combined. For Scribe W, however, signs with no dots make up the majority of accidentals signed (65%), followed by signs with two dots, one dot and four dots. As I suggested earlier, this might

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17 The “?” sums two types of sign: a) those whose dots cannot be accurately counted; and b) those whose Scribe cannot be securely identified.

18 Scribe S: 90%; T: 77%; U: 71%; V: 100%; X: 100%; Y: 72%.
place him, along with the scribes of the Mass of Tournai and Q15, in a tradition of signing inflections with zero, one, and two dots,\textsuperscript{19} versus a second tradition using from zero to four dots.

**VII.2.4 — Visual Index IV: Problems of Identification**

Arriving at an accurate count of the dots in any particular sign is complicated by one or more of the following factors. The first is what I call a “swelling” at the intersection of a staff line and the vertical or diagonal stroke of an accidental; (see Fig.VII.14 below):

This can be most clearly seen in (i) above: in addition to the four dots within the *quadratum*, there are two much larger dots at the intersection of the vertical strokes and the second staff line from the bottom. These two dots appear to result from the interaction of the different-colored ink of the staff and that of the accidental. The similar swellings on the *longa* immediately to the left seem to confirm this. The same can be seen in (ii-iii): the scribe likely signed four dots in both signs, but in (ii), the intersection of the vertical strokes and the fourth

\textsuperscript{19} Scribe W copied a total of thirty songs into the Reina codex; the four signs with four dots occur in just three of his thirty songs, (or 10%).
staff line have created another pair of dots. Likewise in (iii), a fifth dot is visible where the left-hand vertical stroke connects with the second staff line. In (iv), the question of whether the dot in the lower right-hand corner is a swelling or whether it is intentional is harder to determine; (I ultimately decided upon the latter). In (v) the dot appears to be a swelling where the two strokes of the accidental cross, rather than a deliberate insertion; it is also not characteristic of this scribe’s usual habitus. In (vi), the dot seems somewhat more deliberate on the part of the scribe, though it too does not reflect the normal habitus of this scribe. In (vii), damage to the manuscript has rendered this sign all but invisible; if there were dots in its quadratum, they are gone now. And in (viii), interaction between the ink and the paper has caused a multitude of dots to appear, making it impossible to tell which are intentional and which are not.

Finally, the images at the far right illustrate one of the enduring problems in working from black-and-white microfilms and/or photographs: an image that is minimally clear enough to show staff lines and notes may still blur or obscure details of the accidental signs. These two images are of the same accidental sign from C56: the b/w image was published in a 1968 facsimile; the color image was captured by digital camera in 2013. In (a) there appears to be a diamond-shaped insert within the quadratum. In (b) the diamond can be seen to be four discrete dots, instead, and it is on this basis that I count the final accidental in Ave corpus sanctum (I-Vmg s.s.) as dotted; (see Chpt.V, Figs. V.7 and V.8).

VII.3 — Prior Research on Dotted Accidentals

A number of scholars have noted the presence of dots within the accidental signs of Tc, ModA, and Q15. Johannes Wolf and Suzanne Clercx have approached the subject with what might be called an “open mind” to the possibility that the dots signal non-Pythagorean intonation. Friedrich Ludwig and Lucy Cross, on the other hand, reject the notion that the dots
have any significance. There are another four scholars, Antoine Auda, Pedro Memelsdorff, Gilbert Reaney, and Margaret Bent, whose mention of dots in conjunction with Q15 and ModA are not pronouncements on their significance, per se, but nonetheless add to the conversation.

* * * *

**VII.3.1 — Johannes Wolf**

The first writer to associate the dot with microtonal intonation is Johannes Wolf, who briefly discusses the phenomenon of dotted accidentals in his *Geschichte der Mensural-Notation von 1250-1460*, published in 1904.20

Wolf begins by presenting a diplomatic facsimile of the opening eleven measures of the motettus from the Gloria of the “Mass of Tournai” in which there are two dotted accidental signs (see Fig.VII.15 below),21 after which he observes:

One cannot go wrong in relating this usage to the teaching of Marchetto of Padua who divided the whole tone into five dieses, of which the chromatic semitone gets four.22

![Fig.VII.15: Excerpt I from Wolf's *Geschichte*](image)

Regarding the first accidental, he says:

Thus, if c-c♯ comprises four *dieses*, then only one *diesis* remains between c♯-d. Thus, four dots are drawn in the sharp sign to indicate an ascending movement c-c♯ with a semitone of four dieses.23

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21 Wolf bases his facsimile on that of Charles Edmond Henri de Coussemaker, *Messe du XIIIe siècle* (Tournai: Imprimerie de Malo et Levasseur, 1861), 9, but does not reproduce Coussemaker’s facsimile.
23 “Wenn aber c cis vier Diesen umfasst, bleibt natürlich für cis d nur eine Diesis übrig. Folgerichtig werden also dem Kreuze, das bei Aufwärtsbewegung ein c zu cis macht, entsprechend der Tonerhöhung um vier Diesen, vier Punkte eingezeichnet”; ibid.
Wolf had obviously studied Marchetto’s text and examples of permutation in *Lucidarium*, and he notes that because this is an ascending progression, the pitch c\(^x\) would sound four *dieses* (i.e., Marchetto’s *chroma*) above cfa. On the basis of this, he concludes that the four dots represent four *dieses*.

Wolf then addresses the second accidental, saying:

> With a d-c\# interval, the sharp sign has only one dot and the singer, accordingly, must gauge one *diesis*.

Again, Wolf follows Marchetto’s precepts in observing that descending motion begins with a semitone of one *diesis*. But he goes on to say that in the Reina codex and the Padua Fragments he does not find this same correspondence. What he finds instead are accidentals with four dots inflecting both ascending and descending motion; (see Fig. VII.16 below):

Further complicating matters, Wolf finds accidentals in Q15 with two dots inflecting both ascending and descending progressions; (Fig. VII.17):

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24 All the examples of permutation in *Lucidarium* 2.6–8 show ascending chromatic motion save for 7a–c, which show descending chromatic motion, and which Marchetto characterizes as “less natural and less appropriate” (*licet minus naturaliter et propriè*) than ascending permutation. See Herlinger, *Lucidarium*, 149–155.


26 See *Lucidarium* ex. 6a, whose Cantus (d-c\(^x\)-d) is identical to this moment in the Tournai Gloria; Herlinger, *Lucidarium*, 152–53.

27 I have not attempted to identify the song from Pr (Paris 6771 in Wolf’s ex.), given that the example is both anonymous and brief, and Pr is a very large codex. The two examples by Gratiosus de Padua are from I-Pu MS 684 (PadA684) are from the cantus of the same ballata on f.60v; the other voice (or voices) are lost.

28 The Romanus example is Q15 no.27 (Gloria; ff.A28r-A30r); b) the three Dufay examples are all from Q15 no.9, (Kyrie *Missa Resvellies vous?*; ff.A10v-A11r); c) the Dunstaple example is Q15 no. 280, (the motet *Regina celi letare*; ff.A305v-A306r).
And in only a single work—a Credo by Ciconia in Q15—does he find descending motion inflected by one-dotted accidentals; (Fig.VII.18).\textsuperscript{29}

Thus, in conclusion—and faced with conflicting evidence in his sources—Wolf issues the following disclaimer:

It must remain an open question as to whether the dots are a copying error of the scribe, or whether at that time, the dots expressed a different kind of intonation, or, finally, whether the dots were the remnant of a traditional custom, the significance of which those scribes no longer fully understood.\textsuperscript{30}

\textbf{VII.3.2 — Friedrich Ludwig}

\textsuperscript{29} Q15 no.150, (Credo; ff.A185v-A187r). The attribution of this work to Ciconia is doubtful; see note 62 below.

One year later, Friedrich Ludwig published a 44-page review of Wolf’s *Geschichte* in the *Sammelbände der Internationalen Musikgesellschaft.* Upon arriving at Wolf’s discussion of dotted accidentals, he had this to say:

On p.177, Wolf makes the outlandish claim that dots inside sharp signs refer to the size of chromatic intervals … Wolf then cites Marchetto’s widely disputed theory in which the c-c♯ interval measures four dieses and d-c♯, one diesis, to propose differences in meaning for these dots, which he finds expressed in the above “fineness of the notation.”

I interpret Wolf’s phrase “fineness of the notation” not as a comment on the excellence of the notation, but as an observation regarding the delicacy of the accidental signs and of the fineness of the pen nib needed to insert the dots. Unspoken, but also implied in this phrase, is an understanding that the dots required extra care and effort on the part of the scribe.

Ludwig, on the other hand seems to regard this notion with scorn. By characterizing Wolf’s suggestion that the dots have significance as “outlandish,” he makes his position clear: the dots have no significance; he is among those who contest the “doctrine of Marchettus”; he is unwilling to consider the possibility of microtonality in medieval music.

Ludwig then summarizes the conflicting evidence Wolf finds in his early fifteenth-century sources:

Wolf invokes several other manuscripts in which dots similarly appear in sharps, however in these manuscripts, there is no longer a different number of dots for ascending and descending intervals; instead, the same number obtains throughout, four, two, or one.

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32 “S. 177 stellt Wolf die sonderbare Behauptung auf, dass Punkte, die sich gelegentlich in Alterationskreuzen vorfinden, Bezug hätten auf die Größe der chromatischen Intervalle … denkt Wolf an einen Unterschied der Bedeutung dieser Punkte und an die übrigens überall angefochtene Lehre des Marchettus, nac der c cis 4 Diesen, d cis 1 Diesis messen soll, unter er findet dies in obiger ‘Feinheit der Notation’ ausgedrückt”; ibid. Though Wolf’s phrase “Feinheit der Notation,” translates literally as “delicacy of the notation,” I suspect he is referring to the sharpness of the pen nib.

33 “Er führt dann mehrere Handschriften an, in denen solche Punkte in den Kreuzen vorkommen, allerdings nie mehr in verschiedener Zahl für auf- und absteigendes Intervall, sondern nur in überall gleicher Zahl, 4 oder 2 oder 1”; ibid.
While Ludwig is correct in pointing out that the dots in the early fifteenth-century sources do not correspond to Wolf’s analysis of the example from the “Mass of Tournai,” Wolf has already done so in the *Geschichte*, and it is this problem that leads to his disclaimer. But instead of acknowledging this, Ludwig paints Wolf as a fool, summing up Wolf’s ideas regarding dotted accidentals as nonsense, and writing the dots off as little more than a scribal “tic”:

Thus Wolf … cannot decide whether these are scribal errors, another chromatic scale, or an old custom that is misunderstood. In reality, it is none of these three: the entire doctrine of the designation of an [alternate] chromatic system by dots in sharp symbols can only be described as *pure fantasy*. Wolf literally bases his whole theory on a single dot found in Coussemaker's barely faithful facsimile of an older, provincial treatise.34 (emphasis added)

Ludwig could have ended his rebuttal here following his blanket rejection of Wolf’s proposal and his assertion that the dots are meaningless, but inexplicably, he goes on to say the dots actually *do* have meaning:

The dots in the sharps mean absolutely nothing; they are merely characteristic of several scribes: with four dots, they emphasize the four corners of the sharp. Similarly, in the Paduan fragments Wolf mentions, a dot appears inside the flat in the key signature, and rests are often emphasized by dots in spaces.35

It is hard to believe that Ludwig would ascribe a structural meaning to the dots (i.e., that they somehow “reinforce” the square-b) when he must have seen scores and scores of *b-quadrati* in thirteenth century manuscripts that had been successfully inscribed without the need for any “reinforcement.” Equally inexplicable is Ludwig’s mention of dots following rests. In French

34 “So kann sich Wolf S. 178 nicht entscheiden, ob das Kopistenfehler, andere Chroma-Mensur oder alter unverstandener Brauch ist. In Wirklichkeit ist es keins von diesen drei, und die ganze Lehre von der Bezeichnung einer Chroma-Mensur durch Punkte in den Kreuzen, die sich bei Wolf buchstäblich nur auf einen einzigen Punkt auf einem wenig gelungenen Coussemaker’schen Faksimile in einer älteren Provinziaabhandlung stütz, als reine Phantasie zu bezeichnen”; ibid.

35 “Die Punkte in den Kreuzen haben gar nichts zu bedeuten und sind eine Eigentümlichkeit einiger Schreiber; bei 4 Punkten verstärken sie damit die 4 Ecken des Kreuzes, ebenso wie in den Paduaner Fragmenten, die Wolf hier heranzieht, sich in der b-Vorzeichnung ein Punkt befindet und die Pausenzeichen in den Spatien oft mit Punkten verstärkt sind (letzteres ist auch bei Wolf Bd. II, Nr. 62 mehrfach zu sehen)”; ibid.
mensural notation, yes, the dots would have no significance, but in Italian mensural notation they are absolutely necessary. Could Ludwig not have known this?

    The only observation Ludwig makes that is accurate on the face of it is that there are dotted round-b in the Padua Fragments. And while this assertion is not entirely correct—there are also round-b without dots in the Padua Fragments—he is correct in implying that a dotted bfa accidental cannot signal a microtonal semitone if there is an Ffa sounding at the same time. I will return to this below.\footnote{See, for instance, I-Pu MS 658 (PadC658), in which there are undotted round-b.} For the moment, it is important to summarize the mistaken assumptions that Wolf makes—and also the possible connections he missed—before addressing both Wolf’s and Ludwig’s impact on later views regarding the dot.

* * * * *

\textbf{VII.3.3 — Wolf and Ludwig Compared}

    The most serious error Wolf commits is to connect the number of dots to a corresponding number of \textit{dieses}. While there is an obvious logic to the idea that four dots should signal four \textit{dieses} in an ascending progression, Marchetto never says any such thing—nor does any other contemporary theorist.

    Wolf is also mistaken to judge the first of the two dotted \textit{b-quadrati} in his first example as inflecting the c \textit{longa} at \textit{ter-ra}; (compare Fig.VII.15 above to Fig.VII.19 below):\footnote{The two examples Wolf cites from the Padua Fragments are from I-Pu MS 684 (PadA684), f.60v. Both excerpts come from the ballata \textit{Alta regina de virtute} by Gratiosus de Padua, of which only the Cantus survives from what was originally a two- or three-part song; (see PMFC vol. 10, 155). While there are no round-b whatsoever in this song, there are other works in this fragment which do employ the dotted flat, though only as signatures.}
While it is critical to his thesis that this accidental (29r.9a in the above transcription) inflects c∅-d (and that it contains four dieses), it is more likely that 28r.9a inflects b∅-c and not c∅-d. And given that bmi-c is a Pythagorean minor semitone (or according to Marchetto, a two-dieses-wide enarmonicum), Wolf’s assessment that the four dots in this sign indicate four dieses cannot be accurate. Further complicating his argument is the difficulty of determining an exact count of the dots. Fig.VII.20 below shows images of this accidental from Coussemaker’s 1861 diplomatic facsimile (from

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38 Wolf was following Coussemaker’s transcription in which this accidental sign is shown inflecting cmi; evidently he did not question the awkward counterpoint it would produce.

39 It is worth noting that the semitone bmi-c is always Pythagorean in the examples of Lucidarium; see Herlinger, Lucidarium, 144–45, Ex.4 and 272–73, Ex.12. In both examples, Marchetto’s purpose is to contrast the Pythagorean minor semitone (i.e., bmi-c) with diesis (i.e., c∅-d). If the semitone bmi-c was being narrowed in Marchetto’s day to b∅-c, he does not say. Nevertheless, there are examples of bmi-c being inflected with unusual accidentals in manuscripts of Marchetto’s day: see, for instance, accidentals i/10 and o/16 in the fr. 571 recension of Qui secuntur / Detractor est / Verbum (Chpt. V) and d/4, g/7, and i/9 from Jesu fili dei / Ihesu fili virginis / Iesu lumen veritatis from GB-DRc C.I.20 (Chpt. VI). There are also instances of bmi being inflected with an unusual accidental in situations where it does not progress to cfa: see p/16 in Ludowice / Servant regem / Rex regum, also from fr. 571 (Chpt. VI), and the discussion of b/4 in En remirant vo douce pourtraiture in the present Chapter.
which Wolf took his example), followed by the same from the 1988 Dumoulin photographic facsimile.\textsuperscript{40} Whereas Wolf says he sees four dots, Ludwig counters that he can see only three. The photographic facsimile does not help to resolve this question.\textsuperscript{41}

![Fig.VII.20: Coussemaker Dipl. facs. vs. Dumoulin Photo](image)

Wolf’s assessment that the second of the two signs (28r.7a) has a single dot seems to be on more solid ground. There does appear to be a single dot in the middle of this sign, and also in the accidental in the Triplum (28r.9b) with which it is paired; (see the transcription above). Together these two signs inflect a prototypical fourteenth-century double leading-tone progression. If indeed there is just one dot in both of these signs, then we may have the beginnings of a case to be made for parity between the number of dots and their intonational significance. Coussemaker’s facsimile clearly shows just one dot in 28r.7a, but again, the photographic facsimile is not clear enough to confirm this for either sign; (see Fig.VII.21 below).

![Fig.VII.21: Accidentals 28r.7a and 28r.9b](image)

\textsuperscript{40} See Fig.VII.15 regarding the difficulties of determining the number of dots.
\textsuperscript{41} See Chapter V, Fig.V.8 and this Chapter, Fig.VII.2.
A second case for parity is made by Wolf’s first example from Q15; (see Fig.VII.17 above). As with all his examples, Wolf shows us just a single line, which turns out to be the last six measures of the Contratenor from a Gloria by Antonius Romanus.

Fig.VII.22 below shows the complete *Amen* from which Wolf took his example:

![Fig.VII.22: Romanus Gloria, *Amen*, from Q15](image)

The clearer photography of the Q15 facsimile shows that all three signs have two dots. If Wolf was aware of the other two signs and also their parity of dots, he does not say so, perhaps because the two-dotted signs in Q15 do not conform to his interpretation of *Lucidarium*, and because one sign per example was enough to demonstrate the problem. Yet this example makes as compelling a case that the dots do have intonational significance as any I have so far encountered.

In *Early Fifteenth Century Music*, Gilbert Reaney transcribes Romanus’ *Amen* in 3/4 time. In the transcription above, Reaney’s time signature, notation, and measure numbers are retained, but bar lines are displayed only every other measure in order to

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show the harmonic rhythm, which is governed by the two lower voices, and which moves
in a slow duple. This puts the start of important harmonic changes on the downbeat (i.e.,
those measures with bar lines) and the arrivals at perfect consonances on the upbeat
(those measures without). Thus, the first return to the opening D sonority occurs at
m.112; the next arrival, on F, at m.114; and so on, until the final arrival to D at
measure 124. Though the music returns to its opening D sonority three times (mm.112,
119, and 122) before arriving at the final cadence, there is no sense of pause at any of the
interior cadences. Instead, the music has an insistent character that does not let up until
the end is reached. And because inflecting cmi in the upper two voices (mm.111, 118,
and 121) interrupts the flow of the music, these places are left uninflected. This
“abstention from inflection” is amply repaid when the music arrives at the remarkable
penultimate sonority with its doubled third. Even in equal temperament, the attraction of
E/G\(^\#\)/c\(^\#\)/g\(^\#\) to its resolution D/a/d/aa is unusually strong. In Pythagorean intonation, with
its narrower semitones, this attraction is even stronger. And if the dots do indicate
microtonal inflection, then the attraction would be yet stronger.

Wolf’s interpretation of Marchetto evidently prevented him from seeing and
hearing the possibilities of microtonal inflection in the Romanus Gloria. By linking the
dots to \textit{dieses}, and therefore to \textit{ductus}, he had hoped to find the following: a) ascending
inflection signed with four-dotted accidentals; and b) descending inflection signed with
one-dotted accidentals. When he encounters accidentals in Q15 with two dots, he is at a
loss to account for them—though to his credit, he does not try to explain them away. But
if for Wolf, four dots signals \textit{chroma}, and one dot signals \textit{diesis}, then it follows that an
accidental with two dots signals \textit{enarmonicum}—Marchetto’s equivalent for the
Pythagorean minor semitone. I find it hard to believe that the Pythagorean minor is really what Romanus wanted at the conclusion of this *Amen*, which seems intentionally crafted so as to withhold any sense of resolution until the final cadence. But if he did, why did he not indicate this with the normal square-b? And why, moreover, would he (or the scribe of Q15) have spent the effort to add the dots if they had no significance?

* * * * *

Ludwig, for his part, adds little to the conversation about dots. In fact, he seems intent upon terminating it as quickly and as forcefully as possible. Clearly he is wrong to describe the dots as the “peculiarity of some scribes,” given the sheer number of them and the longevity of the dotted accidental; see Prospectus I (Fig.VII.1). And his statement that the dots “reinforce the four corners of the sharp” is hardly credible given the widespread use of dotted and undotted accidentals in the same songs; see Prospectus II (Fig.VII.7).

His observation that there are dotted flats in the Padua Fragments, however, is accurate and potentially problematic, since the round-b mostly—though not always—governs *causa necessitatis* inflections. The dotted round-b in PadA684 is used only as a signature, so the dot cannot have signaled a microtonal interval in that fragment. But with a single exception,43 dotted round-b are found only in the Padua Fragments. Whatever its significance, it does appear to be a local phenomenon.

**VII.3.4 — Suzanne Clercx**

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43 There are three songs in the Reina codex (Pr) with dotted round-b: *Per figura del celo; A discort son desir; and S’en may est foy*; nos. 36 (f.16v), 146 (f.70r), and 159 (f.75v), respectively.
After Wolf, the next musicologist to assert that dotted accidentals have intonational significance is Suzanne Clercx.\textsuperscript{44} Like Wolf—whose mention of dots is a tiny discursion within a much larger project—Clercx’s comments on chromaticism and dotted accidentals are similarly brief.

Clercx relies on Marchetto’s \textit{Lucidarium} and Ciconia’s \textit{Nova musica} as her primary theoretical sources. What she says about dotted accidentals themselves is cursory: as part of her collation of Ciconia’s musical output, she intabulates all the accidental signs she finds in the sixteen sources of Ciconia’s music that she consults\textsuperscript{45}——and interprets them as follows:

From an examination of the works these signs color, it seems correct that the simple figures $\sharp$ and $\natural$ indicate, either ascending or descending, the enharmonic semitone (2/5 of the tone); the dotted chromatic signs $\natural$ and $b$, the diatonic semitone (3/5 of the tone), the doubly dotted sign $\natural\natural$ the chromatic semitone, and the sign $\natural$, the natural sign.\textsuperscript{46}

It is noteworthy that Clercx diverges from Wolf by suggesting that any of these six signs can be used in either direction; she thus dissociates herself from the “dots-and-direction” conundrum in which Wolf found himself, opening the possibility for a new interpretation of dotted signs. But Clercx’s graphic account of these signs is incomplete. She accurately depicts the one-dotted square-$b$ found in five of Ciconia’s eleven Mass Ordinaries in Q15, but does not

\textsuperscript{44} Suzanne Clercx, \textit{Johannes Ciconia, un Musicien Liégeois et Son Temps}, 2 vols. (Brussels: Palais des Académies, 1960), I:101–106. (In 1955, Clercx published an article in \textit{Annales musicologiques} summing up the outlines of her forthcoming study; see n. 49 below). Her discussion of Ciconia’s use of unusual accidentals, which is very brief, is presented in full in the 1960 publication.

\textsuperscript{45} These sixteen sources are: 1) F-Pn 4379 (PC); 2) F-Pn 4917 (Pz); 3) F-Pn 568 (P); 4) GB-Ob 213 (O); 5) GB-Ob 229 (Pd. 02); 6) I-Bc 15 (BL); 7) I-Bu 2216 (BU); 8) I-Las 184 (Mn); 9) I-MOe 5.24 (Mod); 10) I-PEco 3065 (Mn); 11) I-Pu 1115 (Pd. B); 12) I-Rvat 1411 (RU 2); 13) I-Str 14 (Dom); 14) I-TRmn 87 (Tr); 15) PL-Wn 52 (Kras); and 16) PL-Wn 378 (StP). The sigla immediately following the ordinal are those of RISM; those in parentheses following are Clercx’s; see ibid., II:xi–xii.

\textsuperscript{46} “A l’examen des oeuvres que colorent ces signes, il semble bien que les figures simple $\sharp$ et $\natural$ indiquent \textit{per ascensum} ou \textit{descensum}, le demi-ton enharmonique (2/5 du ton); les figures pointées $\natural$ et $b$, le demi-ton diatonique (3/5 du ton), le signe doublement pointé $\natural\natural$ le demi-ton chromatique, et le signe $\natural$ le bécarre.” Clercx, \textit{Johannes Ciconia Musicien}, I:103.
depict the two-dotted square-b found in three of these eleven works from the same source\textsuperscript{47}; (her closest match is the two-dotted sharp).\textsuperscript{48} She also does not depict the four-dotted square-b found in Ox 229 and PadA1475.\textsuperscript{49} Most unfortunate is that she provides neither musical examples nor written analyses to illustrate and explain how it is that she arrives at her interpretation of these signs. In this respect, Clercx is therefore akin to the many other witnesses to the phenomenon of dots—and to unusual accidentals as a whole—who note their presence but say little else about them.

Clercx’s most important contribution is to bring to our attention Ciconia’s little-known discussion of semitones in \textit{Nova musica}. Here is her quotation from Chapter 23, “On Semitones”:

There are three species of semitone; chromatic, diatonic, and enharmonic. The chromatic is larger than the diatonic and is encountered only rarely in song. The diatonic is larger than the enharmonic, and this [semitone (i.e., the diatonic)] we usually use. The enharmonic is the smallest of all.\textsuperscript{50}

At first glance, this statement appears to be Ciconia’s testimony that it was standard practice in his day to use non-Pythagorean semitones. But Clercx interprets Ciconia’s names of the semitones (i.e., chromatic, diatonic, enharmonic) as being identical to those named by Marchetetto. They are not: for Ciconia, “diatonic” signals the minor semitone, not the major that

\textsuperscript{47} Six of Ciconia’s Mass Ordinary settings employ one or both signs. The one-dotted square-b is found in Q15 nos. 73 (PMFC 24 no.2); 74 (PMFC 24 no.3); 4 (PMFC 24 no.6); 149 (PMFC 24 no.8); 5 (PMFC 24 no.10); and 11 (PMFC 24 no.150). The two-dotted square-b is found in nos. 73 (PMFC 24 no.2); 4 (PMFC no.6); and 5 (PMFC 24 no.10). It is possible that the two-dotted sharp in Clercx’s intabulation is meant to represent the two-dotted square-b.

\textsuperscript{48} Curiously, Clercx does depict the two-dotted square-b in her 1955 article; see \textit{Johannes Ciconia, Théoricien} (Neuilly-sur-Seine: Société de Musique, 1955), 39–61 [60].

\textsuperscript{49} Clercx would have seen the four-dotted square-b while transcribing \textit{Sus une fontaine} from GB-Ob 229 (Ox 229 no.11, f.38v) and Credo (PMFC xxiv no.9) from the fragmentary source I-Pu 1475 (PadA1475 no.5, ff.43v–44r). Clercx did not include a transcription of this Credo but did publish a facsimile of f.44r (the Cantus II part) in her 1960 study. A pair of four-dotted signs are clearly visible in the eighth and ninth lines; (see \textit{Johannes Ciconia Musicien}, II:Pl. I).

Marchetto understands it to mean. Likewise, “enharmonic” means “diesis” to Ciconia, but the Pythagorean minor to Marchetto. The only semitone they would have understood to mean the same thing is the “chromatic.” If Clercx understood this, she does not say so. Her interpretation of the dotted accidentals she finds in Ciconia’s Mass Ordinaries in Q15 is therefore unreliable.\(^{51}\)

The most pressing question regarding Clercx is why she does not mention the four-dotted square-b. While not present in Q15, it is found in the Padua Fragments, and especially in the Ox 229 recension of Sus une fontaine. It is also the most common of the dotted signs, with almost 500 of them in the nine manuscripts surveyed (again, see Fig.VII.7). Clercx never mentions it.

### VII.3.5 — Lucy Cross

After Clercx, the only significant observations regarding dotted accidentals are made by Lucy Cross. These occur in the final chapter of her dissertation, “Interval Measurement,” and are contained in a single, very long footnote.

In some of the works ascribed to Matteo da Perugia, and some closely associated anonymous pieces that may well be his, in Modena, Biblioteca Estense alpha.M.5, 24 (lat. 568), there is a distinction clearly made between two types of sharp signs: a cross-hatching which is more or less identical to the ordinary modern sharp, \(\sharp\), and an elaborated square-b which has an exceptionally large interior space usually occupied by several dots.\(^{52}\)

Cross notes that Wolf, Ludwig, and Clercx have all weighed in on the phenomenon of dotted accidentals, but makes no effort to recap anything they have said, save for Ludwig’s

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\(^{51}\) Clercx’s failure to catch Ciconia’s sudden switch in terminology is understandable. Most of Ciconia’s Chapter on semitones is devoted to quoting the ancient authorities (Boethius, Remigius, Hucbald, etc.) as they define the Pythagorean major (or diatonic) and minor (or enharmonic) semitones. Of all his sources, only Boethius mentions the chromatic semitone, and what he says about it is based upon Greek theory, not the practice of Ciconia’s or Marchetto’s day. When Ciconia does turn to the practice of his own day, he uses the name “diatonic” to refer to what his ancient sources called either the “enharmonic” or the “minor” semitone. Ciconia does not alert his reader that he is suddenly using “diatonic” to refer to a different size of semitone, hence Clercx’s misunderstanding. His example in notation, however, clearly shows that by “diatonic” he is referring to the semitone bmi-cfa.

\(^{52}\) Cross, “Chromatic Alteration,” 344-48, n. 1.
pronouncement that Wolf’s theory is “sheer fantasy.” Curiously, she interpolates Ludwig’s opinion into a quotation from Apel:

“In several compositions by Perusio (all in Mod) a curious sign occurs, that is, a natural with varying numbers of dots placed inside. Johannes Wolf’s theory that this sign (which also occurs in Rei[na] [PR; F-Pn nouv. acq. fr. 6771] indicates a semitone of different size, is generally discarded today (Ludwig rejects Wolf’s theory as sheer fantasy). I am unable, however to offer a better explanation. Suffice it to say that in Perusio’s compositions it usually indicates a sharpened note … while occasionally it serves to cancel a previous flat …”\(^{53}\) (emphasis indicates Cross’ interpolation)

In so doing, Cross makes Apel appear to endorse Ludwig, which Apel does not (Apel, in fact, leaves the question open).

Cross then mentions her own study of these signs:

After a study of the sharp-shapes in the works of Matteo da Perugia in the Modena manuscript, I have come to the conclusion that it is impossible they should be intended to convey differences in sizes of semitones, since both types of signs are found in alterations \textit{causa necessitatis}. There seems to be, however, contrary to Apel’s indications, a differentiation between them with regard to function, rather in the modern fashion, in that sharps most often introduce accidentals, and square b’s cancel flats.\(^{54}\)

Cross does not indicate which works of Matteo she examines; neither does she give us any idea of how frequent it is that a dotted sign inflects a \textit{causa necessitatis} situation. There are indeed instances of unusual accidentals inflecting a fourth or fifth, and these places should give us pause. But the more important question is whether they should make us abandon the project. For Ludwig, the answer to that question is an unequivocal “yes.” For Cross, it is a more considered “yes,” but still an answer in the affirmative.

\(^{53}\) The full quotation is: “In several compositions by Perusio (all in Mod) a curious sign occurs, that is, a natural with varying numbers of dots placed inside. Joh. Wolf’s theory that this sign (which also occurs in Rei) indicates a semitone of different size is generally discarded today (Ludwig rejects Wolf’s theory as sheer fantasy). I am unable, however, to offer a better explanation. Suffice it to say that in Perusio’s compositions it usually indicates a sharpened note … while occasionally it serves to cancel a previous flat …” Willi Apel, \textit{French Secular Music of the Late Fourteenth Century}, Cambridge, MA: Mediaeval Academy of America, 1950, 9.

\(^{54}\) Cross, “Chromatic Alteration,” 344–48, n. 1.
In some respects, Cross’ conclusion is implicit within the larger purpose of her Chapter, which ostensibly deals with interval measurement, but which pursues a line of reasoning that suggests microtonality in medieval polyphony is a chimera:

Despite the fairly universal theoretical acceptance of Pythagorean tuning in the Middle Ages, it is nonetheless possible to point to numerous evidences of the use in musical practice, or the assumption on the part of practical musicians, of equal temperament. By this of course I do not mean that instruments and voices were actually tuned so that each semitone would equal the twelfth root of two in proportion to the note below, but that some theorists posited the equal divisibility of intervals, and some musicians simply presumed that semitones were equal to one another.  

And her demonstration that Marchetto’s five-fold division of the tone is seriously flawed begins thus:

Jan Herlinger has been an apt apologist in our own time for most aspects of Marchetto’s five-part division of the whole tone.  

Cross does indeed present evidence to suggest that it was a theoretical convenience for some to regard the major and minor semitones as essentially equal in size, and as a result, does not mention dotted accidentals again. Yet Cross cannot quite close the door on the possibility of microtonal semitones and—though she does not explicitly say so—the possibility that unusual accidentals signal them:

If there is any real substance to Marchetto’s argument that falsa musica alterations (always causa pulchritudinis) require semitones of extraordinary size, [then] performers should be bound to consider it in their approach to extrahexachordal intervals.

Four more contributors to the conversation on dots need to be mentioned before moving on. The discussion that follows is not set out in strict chronological order; rather, it focuses on

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56 Ibid., 338.
57 Ibid., 356.
information and/or points of view that I believe are more useful to the conversation when
examined outside the linear chronology set forth above.

VII.3.6 — Antoine Auda

Antoine Auda, writing in 1930, starts his discussion of chromaticism by mentioning first
Wolf, then Ciconia, then Marchetto and his five-fold division of the tone.\(^{58}\) Auda calls attention
to a plainchant antiphoner in German neumes, compiled sometime prior to 1361 for the
Collégiale Sainte-Croix à Liège, that employs a variety of dotted accidentals —[\(\text{\textcopyright}\) — and notes that the third sign from the left is also found in the Turin motet codex (i.e., I-Tr vari 42).\(^{59}\) Regarding these signs, he says “… we do not know the rules that govern their use,” but
almost immediately thereafter states:

Ciconia … did not need to go to Italy to learn the doctrine of quarter-tones and the various ways
of writing them: the Liège schools [offered] a complete musical education.\(^{60}\)

In this very brief statement Auda makes a trio of unsubstantiated but provocative
suggestions. The first is that these dotted accidentals indicate microtones both in plainchant (the
Sainte-Croix antiphoner) and in polyphony (the Turin motet codex). The second is that in Liège,
Ciconia’s city of birth, training in non-Pythagorean intonation was part of a “complete musical
education.” And the third is that Ciconia was adept at reading and notating these signs.

The evidence of Q15—the source in which almost all of Ciconia’s music that is inflected
with dotted accidentals is found—is more circumspect. Of the forty-seven works ascribed to
Ciconia in vol. 24 of “Polyphonic Music of the Fourteenth Century,” sixteen are transmitted in

\(^{58}\) Antoine Auda, La musique et les musiciens de l’ancien pays de Liège (Brussels, Paris, et Liège, 1930), 85.
\(^{59}\) I-Tr vari 42 seems to have been an independent codex of northern provenance. At some point in the fourteenth
century, it was bound into a larger, non-musical manuscript (E.73) at the Abbey of St. Jacques in Liège, where it
remained into the seventeenth century. At some later point, the manuscript was split apart, and the motet codex was
acquired by the Biblioteca Reale in Turin, Italy. See The New Grove, 2nd ed., s.v. “Sources, MS”; see also Everist,
\(^{60}\) Auda, La musique, 85.
Q15, and of these sixteen works, only six are inflected with dotted accidentals; (see Fig.VII.23, nos. 1-6 below).\textsuperscript{61}

This figure raises two questions: is it significant that every one of Ciconia’s works in Q15 that is inflected with dotted accidentals is a Mass Ordinary? In other words, was there a connection between dotted signs and music composed for the Church? And is it likewise significant that none of his secular motets (nos. 7-14) is inflected with dotted accidentals?

I note also that any connection between: a) microtonality in plainchant (which has been documented in Utrecht from the twelfth to the fourteenth centuries); b) dotted accidentals (known only from a single antiphoner from Liège); and c) Ciconia’s polyphony (some of which survives in recensions that employ dotted accidentals) has yet to be established. Auda points to such a connection, but does not attempt to demonstrate it.

\textsuperscript{61} Only five of these six works are securely attributed: “The melodic, rhythmic, and harmonic writing [of no.11 (Q15 no.150)] is often awkward and dissonant, and there is little to inspire confidence in the attribution to Ciconia. The formal similarity to Gloria no.8 could easily have been achieved by an imitator,” Margaret Bent and Anne Hallmark, eds., \textit{The Works of Johannes Ciconia}, PMFC vol. 24 (Monaco: Editions de l’Oiseau-Lyre, 1985), 205.

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<th>no.</th>
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<th>PMFC</th>
<th>Glerex</th>
<th>Title</th>
<th>Composer</th>
<th>stage</th>
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<td>73/493v-A96r [I-TRm 87 no.32 ff.53v-55]</td>
<td>2</td>
<td>27</td>
<td>Credo</td>
<td>Ciconia</td>
<td>I</td>
<td>-</td>
<td>1</td>
<td>2</td>
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<td>Ciconia</td>
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<td>Ciconia</td>
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<td>(opus dubium)</td>
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<td>257/A287v-A288r</td>
<td>14</td>
<td>40</td>
<td>Venece mundi splendis</td>
<td>Ciconia</td>
<td>I</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>10.</td>
<td>254/A286v-A285r [I-BU 2216 no.53 ff.36v-37] [I-Sc 36 no.1 ff.25v-26]</td>
<td>15</td>
<td>38</td>
<td>O virum omnimodam veneracione</td>
<td>Ciconia</td>
<td>I</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>11.</td>
<td>273/A300v-A301r [I-TRm 87 no.32 ff.15v-16]</td>
<td>16</td>
<td>39</td>
<td>Albane misse celtus</td>
<td>Ciconia</td>
<td>III/II</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<tr>
<td>12.</td>
<td>272/A295v-A300r</td>
<td>17</td>
<td>41</td>
<td>Doctorum principem</td>
<td>Ciconia</td>
<td>III/II</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<tr>
<td>13.</td>
<td>245/A277v-A278r</td>
<td>18</td>
<td>42</td>
<td>Petrum Marcellum veneram</td>
<td>Ciconia</td>
<td>I</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<tr>
<td>14.</td>
<td>259/A286v-A290r [GB:OB 213 no.277 ff.119v-120]</td>
<td>19</td>
<td>33</td>
<td>Ut te per omnes</td>
<td>Ciconia</td>
<td>I</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>15.</td>
<td>255/A285v-A286r [I-Pu 1115 (Podb) (see no.44)]</td>
<td>22</td>
<td>30</td>
<td>O beatum incendium</td>
<td>Ciconia</td>
<td>I</td>
<td>-</td>
<td>-</td>
<td>2</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>16.</td>
<td>258/A288v-A289r</td>
<td>23</td>
<td>31</td>
<td>O Petre Christi discipuli</td>
<td>Ciconia</td>
<td>I</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>7</td>
<td>-</td>
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It may also be noteworthy that among those composers in Q15 whose works employ dotted accidentals, Ciconia is not the most prolific: he is, in fact, third overall with six works in total; Zacara is second with eight; Dufay is first with twenty-one. The fact, however, that both Dufay and Ciconia were born and trained in the Low Countries, and the fact that there is evidence of microtonal intonation in the same general area of Northern Europe datable to the twelfth century and perhaps earlier, suggests that Auda’s hunch may have some truth to it.

VII.3.7 — Pedro Memelsdorf

Pedro Memelsdorf takes up the issue of whether the square-b (whether dotted or not) in ModA indicates non-Pythagorean intonation in his 2001 article “What’s in a Sign?”62 His concern regarding the accidentals of ModA resides in the fact that in the newer layer of ModA (fascicles I/V), one finds polyphony inflected by the round-b, the sharp, and the square-b, whereas in the older layer (fascicles II-IV), the only accidentals are the round-b and the sharp.63 Hence his question: what is the difference between the sharp and the square-b when both are used in the same song?

Memelsdorff’s study points to the existence of two exemplars for the newer layer of ModA whose use of chromatic signs cannot be reconciled. In the first, a source he calls “Beta,” the relationship between the sharp and the square-b is consistent: sharp momentarily cancels signature square-b; square-b cancels non-signature round-b for good. In the other source, “Alpha,” the square-b is used somewhat like the sharp in Beta: it sometimes cancels a signature round-b; sometimes a non-signature round-b.

63 Memelsdorff overlooks both the “swung” sharp and one-stroke sharp present in fasc. II-IV of ModA. See the discussion of En remirant, VII.5.6 for images of the swung sharp and a discussion of the possibility that it indicates non-Pythagorean intonation.
But Memelsdorff also finds $b$-quadrati in Alpha being used to inflect pitches where there is no previous sign to cancel; in other words, some of the $b$-quadrati act like the modern sharp. This prompts him to ask whether, in the sixteen works for which this is the case, there was simply no system in use, or whether the square-b signals a non-Pythagorean semitone. He does not answer this question directly, but cites Prosdocimus’ attack upon Marchetto’s non-Pythagorean semitones as evidence of their use in the early fifteenth century. He also quotes from the Regule contrapuncti, which posits an explicit intonational difference between the sharp (i.e., diesis) and the square-b.$^{64}$

Yet Memelsdorff makes it clear that he considers the dotted square-b to be no different than the normal square-b.$^{65}$ Thus, while he comes closer than any other musicologist to saying that non-Pythagorean intonation was indeed present in late-Medieval music, and that the “ambiguous” $b$-quadrati from the Alpha exemplar of ModA fascicles I/V signal it, he never questions why the scribe would insert dots in some signs but not others.

VII.3.8 — Gilbert Reaney

Gilbert Reaney, while transcribing a Credo by Gilet Velut (Bologna Q15 no.31) for CMM II/2, notes that “sharps approached from above are designated by $\sharp$ and those from below by $\flat$.”$^{66}$ Reaney makes no further comment on the significance of this, but that he mentions it indicates that Wolf’s mistaken interpretation of Marchetto had a long-lasting influence of the thinking of musicologists.

VII.3.9 — Margaret Bent

$^{64}$ Although the Regule indicates that it is the sharp, not the square-b, that has non-Pythagorean significance.  
$^{65}$ “I will consider $\sharp$ and $\flat$ as one and the same.” “What’s in a Sign?” 256, n.9.  
$^{66}$ Reaney, Early Fifteenth-Century Music, CMM 11/6, LVIII.
Margaret Bent, in the “Catalog of Compositions” to her 2009 facsimile of Q15, carefully notes the presence of dotted accidentals in her comments, often including such detail as the color of ink used. She also repeats Reaney’s comments regarding the dotted signs of the Velut Credo. Without explanation, she abandons any mention of the dots after inventory no. 46. Thus, of the 73 compositions in Q15 with dotted accidentals, she notes only the first 28.

VII.3.10 — Summary and Transition

The Visual Indices and Prospecti of §§VII.2.1—VII.2.3 demonstrate that dotted signs were in use for a century or more, and that—simply put—there were lot of them. So many, in fact, that Ludwig’s assertion that the dots have “no meaning” is hard to square with the numbers: 822 dotted signs in the nine manuscripts surveyed. We may not know exactly what the dots mean, but this does not mean they are meaningless. The details, in fact, point to the opposite conclusion.

My review of the previous scholarship on dotted signs shows the absence of any thorough study of these signs. Wolf made a good start by identifying three of the nine manuscripts inventoried in the present study. His analysis of the eleven examples provided, however, was skewed by the incorrect assumption that there was a correlation between the number of dots and the corresponding number of dieses—something Marchetto neither says nor implies. This mistake led Wolf into a series of dead ends that ultimately caused him to retreat from his original thesis. Wolf might have realized his mistake, corrected it, and gone back to the sources with fresh eyes and ears had it not been for Ludwig, whose toxic criticism foreclosed the question of whether there is any relationship between dotted accidentals and microtonality.

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67 Bent, Bologna Q15, II:170.
The only scholar to have explicitly said that dotted signs signal non-Pythagorean semitones was Suzanne Clercx. But of the sixteen manuscripts she examined in her study of Ciconia, only three have signs with dots (Q15, Ox 229, and PadA1475). For unknown reasons Clercx investigates only the first, and excludes the second two manuscripts. Her conclusion that the one-dotted square-b signals the *diatonicum* and the two-dotted sign, the *chromaticum*, is neither explained nor supported by analysis or example, and is flawed by her assumption of an equivalence in nomenclature between Marchetto and Ciconia that does not in fact exist.

Nevertheless, Clercx makes two important contributions. The first is that she abandons Wolf’s mistaken dots-to-dieses reading of Marchetto, thereby opening the possibility of explaining the dots by some other means. The second is the attention she calls to the otherwise little-known chapter in *Nova musica* on semitones, in which Ciconia testifies to an on-going tradition of non-Pythagorean intonation using unusual semitones that are not those described by Marchetto.

Cross raises the issue of dotted accidentals signed in *causa necessitatis* inflections. This is an important finding with potentially negative implications for the theory that dotted signs inflect microtones. Cross, however, examines only the works of Matteo da Perugia in ModA, and does not say how many examples of this she finds nor in which of Matteo’s works they occur. It is therefore not possible to know whether there are a statistically significant number of such cases, or whether her finding is a minority report.

Memelsdorf’s study of ModA and the works of Matteo that use both the sharp and the square-b, on the other hand, indicates the latter functioned normally under most circumstances (usually canceling a prior round-b). In a handful of works where there is no prior round-b to cancel, however, Memelsdorf believes that the square-b acts like a sharp and has microtonal
significance as well. This conclusion, moreover, applies to these \textit{b-quadrati} whether they are dotted or not.

Though neither Reaney nor Bent show any inclination to view the dots as having intonational significance, the influence of Wolf’s mistaken correlation of dots-to-\textit{dieses} still appears in their writing.

* * * *

While there is much work to be done on songs with one and two dots—such as are found in Tc and Q15—in the following two sections of analysis, I focus exclusively on songs using four-dotted signs.

The six works to be examined were chosen for the following reasons. The first five, which come from the nearly-identical manuscripts Padua, Cathedral Library C55/56, are all in two voices and combine four-dotted accidentals with chromatic progressions that are virtually identical to those illustrated in \textit{Lucidarium}. They therefore represent the most persuasive testimony that dotted accidentals are associated with microtonal inflections. The fifth song, Ciconia’s \textit{Sus une fontaine} (from the Ox 229 recension) uses four-dotted signs in conjunction with significant words in the text—\textit{remirant} and \textit{atendant}—which Ciconia excerpted from the ballades of Filippotto da Caserta, along with their music, and seamlessly wove into his song. I argue throughout my analysis of \textit{Sus} and its sources that the dotted signs signal non-Pythagorean intonation, and that the correspondence of microtones and borrowed text was part of Ciconia’s design for this song.

Finally, I make no claim about the significance of the \textit{number} of dots, other than I take it as given that they indicate non-Pythagorean intonation. In the analyses that follow, therefore, I
assume that a four-dotted square-b signals a microtone, and the normal square-b, the
Pythagorean minor semitone.

**VII.4 — The Padua Processionales C55/56**

**VII.4.1 — Introduction**

In the library of the Cathedral of Padua are a pair of manuscripts, shelfmarks C55 and
C56, containing the plainchant for all the processions that precede the Mass on important feast
days.\(^{68}\) They also contain the music for a series of “Dramatic Offices.”\(^{69}\) These offices are brief,
extra-liturgical plays enacted on Christmas Eve (24 Dec.); Epiphany (6 Jan.); the Purification of
Mary (2 Feb.); the Annunciation (25 Mar.); the Great Vigil of Easter; and Ascension. Most of
their music is monophonic, but two offices incorporate what appears to be early Italian
polyphony. In what follows, I will examine the two non-mensural songs from the Purification
office, and two of the three songs in Italian mensural notation from the Ascension office, for
evidence that their dotted accidentals inflect non-Pythagorean semitones.

All four of these songs are inflected with a unique accidental that resembles a sharp, but
whose diagonal strokes run in the opposite direction and whose quadratum has four dots in it.
Most remarkable is the use of these signs to inflect chromatic progressions that are essentially
identical to examples 3c and 6c from Lucidarium. The confluence of location (the two

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\(^{68}\) The volumes, C55 and C56, are held in the library (the Biblioteca Capitolare) of the Cathedral of Padua. The
inscription at top right, f.1r, of both manuscripts reads: “In isto quaterno sunt omnia officia et processiones que fiunt
in ecclesia paduana per totum circulum anni [In this book are all the offices and processions that are made in the
Paduan Church throughout the year].”

\(^{69}\) The complete parallel Latin / Italian transcription of C55/C56 and facsimile of C56 is Guiseppe Vecchi, *Uffici
drammatici padovani* (Florence: Leo Olschki, 1954). Though detailed, Vecchi’s facsimile is dark and grainy.
Vecchi, along with F.A. Gallo, republished the photographs of the dramatic offices from C56, only, in *I più antichi,
Tav. CVIII-CXVIII*. These images—evidently made from the same negatives—are both larger and brighter than in
the 1954 facsimile, but there is a corresponding loss of detail that renders the accidental signs invisible (or nearly
so).

For the color images used below, I am indebted to Dr. Anne Stone of the Graduate Center of the City University of
New York, who photographed both C55 and C56 at my request, and to Prof. Francesco Facchin of the Conservatorio
“C.Pollini,” Padua, who assisted.
manuscripts were prepared by and for the Cathedral of Padua, and are still in its library); two-
voice chromatic progressions signed by unusual accidentals (Marchetto taught singing at the
Cathedral in the first decade of the fourteenth century); and what appears to be very early
notation (both the mensural and the non-mensural) all suggest that this music is early fourteenth
century. Establishing even approximate dates for the either the manuscripts or the polyphony,
however, seems impossible. C55/56 are most likely fifteenth-century copies of an earlier
exemplar: they are not listed in any fourteenth-century inventory of the Cathedral library, nor do
they appear in the first inventory of the fifteenth (1407). Neither is the exemplar from which they
were copied recorded in any inventory. The two processionales do not appear until the inventory
of 1472—the first inventory to be conducted following that of 1407.

The non-mensural music of the Purification office certainly looks as if it could be late-
thirteenth or early-fourteenth century. More than a century later, however, Prosdocimus praised
the “sweet sound” of cantus planus binatim, making the music impossible to date on the basis of
its notation alone. Likewise, while the mensural polyphony has features that are more
reminiscent of Marchetto’s motet and the anonymous Ave corpus sanctam than anything
composed later in the century, it is not possible to confirm an early date on that basis alone,
either.

What is unmistakable, however, is the connection of this music to Marchetto’s
description of non-Pythagorean intonation and the examples he gives in Lucidarium. There is no
other collection of songs that I know of that so closely conforms to Marchetto, and in which we
can be more confident of the microtonal inflections therein. And while it is not possible to
conclusively prove this, the use of dotted signs to inflect the chromatic progressions, especially,
suggest that the dot did in fact have intonational significance.
VII.4.2 — The Purification Office

VII.4.2.1 — Summary of the Action

The Purification office, celebrated on 2 February, dramatizes the encounter between Mary, Joseph, the infant Jesus, and the elderly priest Symeon. As described in Luke 2:22-32, it recreates the conclusion of Mary’s ritual purification and the Presentation of Jesus in the Temple at Jerusalem.70

Mary, Jesus, and Joseph are met at the temple by the elderly priest Symeon, whom Luke describes as “just and devout,” and to whom the Lord has promised revelation before his death. Symeon blesses Mary and foretells the glory to come. His prophecy is followed by that of Anna, an elderly widow who spends day and night in the temple, and whom calls Jesus the “redemption of Israel.”71 (Anna’s prophecy is not spoken in the office, though she is physically present.)

The office follows the afternoon meal. The rubrics indicate the full consort of ecclesiastics must be involved: scholares (boys); sacerdotes (priests); and clerici (the choristers). Four priests are prepared in the Baptistery as Mary, Joseph, Symeon, and Anna; Mary holds a doll representing Jesus in her arms. The rest of the clerics gather in the Cathedral. Mary et al. then process from the Baptistery to the Cathedral, whereupon arriving, two boys sing the polyphonic song *Ave gratia plena*; (Fig.VII.29 below). Mary and Joseph approach the altar and show Jesus to Symeon, while the boys chant the responsory *Obtulerunt pro eo*. Symeon then accepts two turtledoves from Joseph, while a boy prepared as an angel chants the antiphon *Ecce positus est hic*. Another two boys, also dressed as angels, chant *Responsum accepit Symeon*, and then sing the second polyphonic antiphon, *Suscipiens Symeon*; (Fig.VII.30 below). Symeon then

70 “And when the days of her purification according to the law of Moses were accomplished, they brought [Jesus] to Jerusalem, to present him to the Lord.” Luke 2.22.
scoops Jesus into his arms and joyfully sings the canticle *Nunc dimittis*: “Lord, now lettest thou thy servant depart in peace, according to thy word.”

**VII.4.2.2 — Analysis of *Ave gratia plena***

*Ave gratia plena* is written in the quadratic notation typical of thirteenth century plainchant: *punctum* and *virga*; *pes* and *clivis*. The former are single pitches; the latter, groups of two notes (indicated in the transcription with a slur). This music, sometimes called “primitive polyphony” or *cantus planus binatim*, is essentially two-voice discant in chant notation.

*Ave gratia plena* is not entirely non-mensural, however: in three places a one-note *virga* in Voice I must be sustained for the length of the two-note *clivis* in Voice II below. Because the voices are not aligned on the page—they are written sequentially, with Voice I followed by Voice II)—this is not immediately apparent. The scribe thus signaled these brief rhythmic alterations in Voice II by placing two dots over each of the three *virgae*—a simple but effective solution to the problem.

In the transcriptions below, these places coincide with the signs d/4, e/5, and f/6. I have used an “x” in the notation to indicate the chromatic pitch that sounds on the second beat of the *virga*; (see Fig.VII.24:ii). Because there is an exact correspondence of the progressions at d/4, e/5, and f/6 to Ex. 3c in *Lucidarium*, there exists the possibility that non-Pythagorean intonation was intended for all three of these progressions.

* * * * *

d/4: In Voice I, the two dots over the cfa *virga* at *te-ne-bris* indicate this pitch is to be sustained for two beats—the same duration as the two-note *clivis* on *te-ne-bris* in Voice II. Given the low D at *sunt* in Voice II, the accidental immediately following *te-ne-bris* in Voice I cannot

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have been meant to inflect the dsolre immediately following; it must instead inflect the previous note. And though perhaps not immediately obvious to modern eyes, it signals permutation (i.e., cfa-c') across the dotted virga (‐bris).

![Fig. VII.24: Ave gratia plena, The First Chromatic Progression – d/4](image)

A chromatic inflection involving two pitches on the same syllable is beyond the capacity of chant notation, and the significance of the two dots over the virga in Voice I (‐bris) becomes clear only in context. The passage *que in tenebris sunt* is set to eight notes in Voice II, but only seven in Voice I. One note in Voice I must therefore be sustained for an extra “beat;” it is the two dots over the cfa virga that indicate which pitch gets the extra beat; (see Fig. VII.24:ii).73

More interesting is the placement of the accidental, which follows the note it inflects. If this is to indicate that the second beat of the virga is raised by a semitone, its placement—while unconventional—nevertheless makes sense: to have signed it before the virga would have been

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73 Vecchi, in his 1951 transcription of *Ave gratia*, recognized that the two dots added a second beat to the cfa virga (which he signaled with a fermata) but did not know what to make of the accidental that followed. In one of the copies of *Uffici drammatici padovani* I consulted, the outlines of a sharp between the dotted cfa virga and the dsolre following are still partly visible: it must have been present in the fair copy when the plates were prepared, then erased—albeit incompletely—before going to print. Moreover, d/4 is not the only accidental Vecchi eliminated from or left out of his edition—also missing are: a/1, b/2, f/6, and h/8. See *Uffici drammatici padovani*, 26; see also the discussion of these accidentals below.
to inflect both beats. Instead, the accidental stands in place of c⁸, as if it were the inflected note itself.⁷⁴

\textbf{e/5-f/6}: The progressions at \textbf{e/5} and \textbf{f/6} are identical in every respect to \textbf{d/4} save for one: the accidental signs come before the two-beat virgae (i.e., at se-ni-or and 7396) by two notes and one note, respectively. For \textbf{e/5}, the space after the virga is perhaps too cramped to fit the accidental, but there is plenty of space after \textbf{f/6} (7396); this accidental, moreover, is signed before the \textit{custos} on the previous line, suggesting that the scribe wanted to give the reader plenty of advance notice. Perhaps this was the motivation for the placement of \textbf{e/5} as well.

\textbf{a/1}; \textbf{c/3}: These two progressions, both of which are inflected by four-dotted signs, are nearly identical. In both, the inflected note is approached by leap, rather than by chromatic motion, but thereafter they progress sixth-to-octave and are either close to (in the case of \textbf{a/1}) or the same as \textit{Luc}. Ex. 3a (as is \textbf{c/3}).

⁷⁴ In alphabetic notation of Pseudo-Odo, and which was adopted by Guido of Arezzo, the round- and square-b are indeed notes.
In **a/1**, the sixth-to-octave progression resolves to C/c (rather than D/d as in **c/3**), and the unusual sign inflects bmi. There are three examples in the previous chapter of bmi being inflected with an unusual accidental, and **a/1** marks a fourth such instance. Was it signed to prevent b from being sung fa, or does it signal a non-Pythagorean b^x-cfa semitone?

While there is no sure way to tell, the connection of the four-dotted signs with an identical progression from *Lucidarium* in **d/4**, **e/5**, and **f/6** suggests that non-Pythagorean intonation may have been intended for **a/1** as well.

**b/2:** Whereas the bmi inflected by **a/1** is preceded by G, sounds against D, and proceeds to C/c, the same pitch inflected by **b/2** is preceded by F, sounds against Emi, and immediately begins a stepwise descent; (see Fig. VII.27 below). In other words, there is no directed progression here such as there is at **a/1** and **c/3**. What there is, instead, is the circumstance upon which Cross based her rejection of any relationship between dots and microtones in ModA.

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75 They are the two fr. 571 recensions of *Ludowice* / *Servant regem* / *Rex regum* and *Qui secuuntur* / *Detractor est* / *Verbum iniquum*, and the English motet *Iesu fili dei* / *Ihesu fili virginis* / *Iesu lumen veritas*; see Chpt. VI.6 and VI.7 respectively.

76 Marchetto does not provide any examples of permutation to C/c via *chroma* and *diesis*, and the only example in *Lucidarium* (12a-b) that does progress bmi-cfa uses the round- and square-b, is there to contrast traditional intonation and the signs that signal it with non-Pythagorean intonation and *musica colorata*. This should not be surprising, given Marchetto’s desire to show that both sets of accidentals have an underlying commonality (i.e., *diesis*).
In C55/56, the two parts are not aligned (as they are in Fig.VII.27:i above), and the singer of the top voice cannot see the E in the lower voice. It’s certainly possible that b/2 is simply a cautionary accidental inserted to prevent the singer from singing bfa (and from forming a diminished fifth with the E below). And if b/2 were the only inflection in Ave gratia plena (or if the others were also causa necessitatis inflections), we might conclude that the dots have no effect upon intonation. But b/2 is also signed with the same dotted accidental that inflects the three chromatic progressions: d/4, e/5, and f/6. This suggests that the dots do in some way signal microtonal inflection, which in turn suggests that the wide-fifth may be deliberate. There is also the possibility that the scribe used this sign indiscriminately.

As it happens, there is also a second, signed wide-fifth in Ave gratia plena: h/8. This second wide-fifth occurs in contrapuntal circumstances that are perhaps more favorable than those of b/2, and because they suggest some other ways of seeing this inflection, I will return to b/2 after discussing h/8.

g/7-h/8: Ave gratia plena concludes with an astonishing chromatic progression; (see Fig.VII.28:i-ii below). 77 In what follows, I will address first the horizontal aspect of this passage, then the vertical.

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77 To the best of my knowledge, a progression of three adjacent semitones is unique in all of medieval music.
There are four pitches in Voice I (d, d\textsuperscript{x}, e\textsuperscript{x}, f), but three semitones: d-d\textsuperscript{x}; d\textsuperscript{x}-e\textsuperscript{x}; and e\textsuperscript{x}-f. Together, they comprise a chromatic semiditone like that on the recta Gamut (i.e., a-b\textsubscript{b}-b\textsuperscript{b}-c). At first glance, this suggests the passage might be tuned with Pythagorean semitones. Because of the transposition, the first semitone (d-d\textsuperscript{x}) be inflected by a mi-sign, instead of a round-b. The insertion of the second mi-sign, however, suggests that e\textsuperscript{x}-f is a microtone. Thus the following question: if Pythagorean intonation was intended, why inflect e\textsuperscript{x}-f when e-f would suffice?

The vertical sonorities pose similar problems. Assuming non-Pythagorean intonation, the first progression (G/d - F/d\textsuperscript{x}) is unremarkable, in fact, the top line is a close match for Luc. Ex. 9c. But the second progression (F/d\textsuperscript{x} - a/e\textsuperscript{x}) produces a wider-than-perfect fifth, the same problem encountered at b/2. Was the lower voice also raised so as to perfect the fifth; i.e., a\textsuperscript{x}-e\textsuperscript{x}? Or was the a-e\textsuperscript{x} sonority allowed to be “out-of-tune”? Given that the progression resolves to an octave (F-f), was the wide fifth “tolerable”? In other words, while it may look wrong to us, was it part of the aesthetic that the composer of this music was working in at this particular time and place? Or was a. raised so that it would form a fifth with e\textsuperscript{x}?

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78 The cantus of Ex. 9c is in fact the same as the first two inflections (d-d\textsuperscript{x}-e\textsuperscript{x}).
79 See Cross’ example of apparently “wrong” inflections in mm. 36–37 of Jacopo da Bologna’s *Aquil’ altera* and accompanying text; “Chromatic Alteration,” 17.
To sum up: the majority of signed inflections in *Ave gratia plena* could be sung with a narrower-than-Pythagorean semitone. And given the location of this music (i.e., the Cathedral of Padua), its apparently early date, and its three examples of permutation such as Marchetto illustrates in *Lucidarium*, the inflections at d\(4\)-f\(\frac{5}{6}\) should certainly proceed *chroma* then *diesis*, (rather than Pythagorean major then minor). But b\(2\) and h\(\frac{8}{16}\) are problematic; especially b\(2\).

A look at the entire song, including its translation, may help us to better understand the logic of the music. So does a look back at the action of the Office itself. *Ave gratia plena* is sung upon the arrival of Mary, Joseph, and the infant Jesus at the Cathedral. They approach the altar and present the child to the Symeon, who recognizes Jesus and realizes that God has kept his promise to him. Symeon then scoops (*suscipiens*) Jesus into his arms and starts to sing his canticle of thanksgiving.

While the three chants and the second of the two polyphonic songs, *Suscipiens Symeon* (to be examined next), are sung between *Ave gratia plena* and the *Nunc dimittis*, the text of *Ave gratia* both describes and sums up the entire Office: it begins with a salutation to Mary, the...
mother of God—God whose light dispels the darkness; it then turns to Symeon holding Jesus in his arms (Tu senior iuste ... in ulnis); and it ends with a plea for our salvation (set to the remarkable chromatic progression illustrated in Fig.VII.28 above).

It may not yet be possible to see these eight accidentals as specifically highlighting the words they inflect—as I assert the accidentals of the two Ascension songs do (see VII.4.3 below)—but one can perhaps see in this music the amalgam of a taste for strong dissonances that resolve to perfect consonances coupled with a dramatic text.

**VII.4.2.3 — Analysis of Suscipients Symeon**

The sole dotted accidental in Suscipients Symeon, a/1, inflects in very short order a perfect fifth, and a progression of sixth-to-octave; (see Fig.VII.30 below).

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**Fig.VII.30: Suscipients Symeon, Accidentals a/1 c/3 and b/2**

![Image](image_url)

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— 228 —
Thus, as in *Ave gratia plena*, we are again confronted with a difficult situation: is fmi tuned normally in both places? Or is the first sung fmi, and the second f, as Marchetto says a sixth-octave progression should be? More clear, however, is the connection of text and inflection here: it is the name of Jesus that is being spotlighted.

*Suscipiens Symeon* is the final notated work for the Purification in C55/56, but the rubrics state it is to be followed by the canticle *Nunc dimittis*—Symeon’s song of thanksgiving—to be sung in the sixth mode. The text of the antiphon, when followed by the canticle, suggests there should be no break in the action:

|Suscipiens Symeon puerum Ihesum in manibus exclamavit dicens: [“nunc dimittis servum tuum Domine secundum verbum tuum in pace ... Gloria patri, filio, et …”]| Symeon, taking up the infant Jesus in his hands exclaimed, saying: [“Lord, now lettest thou thy servant depart in peace, according to thy word ... Glory to the father and the son and …”]|}

The rubrics indicate that the cleric singing the part of Symeon is to stop at *Gloria patri* and let the choir finish singing the Doxology. When done, the office is complete, and all return to the sacristy.

**VII.4.3 — The Ascension Office**

**VII.4.3.1 — Description**

Ascension is one of seventeen moveable feasts in the calendar of the Roman Church whose date is based upon that of Easter.\(^8^0\) It celebrates the ascension of Christ into heaven forty days after the Resurrection, and is one of the principal feasts of the church.\(^8^1\) It is also one of the most problematic.

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\(^8^0\) The date of Easter is based on the lunar calendar (approx. 29.5 days) and is “… always the Sunday after the full moon that occurs on or after the spring equinox on March 21. […] This full moon may happen on any date between March 21 and April 18 inclusive.” Episcopal Church, *The Book of Common Prayer* (New York: Oxford University Press, 1979), 880. The lunar calendar aligns with the Gregorian calendar only once every nineteen years, and the dates of feasts based upon the former drift through the latter—hence the name “moveable” feast.

\(^8^1\) The others are: Easter, Pentecost, Trinity Sunday, All Saints Day, Christmas, and the Epiphany.

— 229 —
The Ascension is essential to Christian theology, yet the Gospels of Matthew and John do not even mention it, and those of Mark and Luke devote only one line each to it. Even in Acts of the Apostles—the longest account of the Ascension in the New Testament—it is described in just three lines:

9And when he had spoken these things, while they beheld, he was taken up; and a cloud received him out of their sight. 10And while they looked steadfastly toward heaven as he went up, behold, two men stood by them in white apparel; 11Which also said, Ye men of Galilee, why stand ye gazing up into heaven? this same Jesus, which is taken up from you into heaven, shall come in like manner as ye have seen him go into heaven. (Acts 1:9-11)

The doctrine of Ascension encompasses: a) Christ’s ascent into heaven; b) his session at the right hand of God; and c) the promise of return on Judgment day. Only the first and third of these are named in Acts, hence they are the two themes of the Padua Ascension office.

* * * * *

The rubrics for the Ascension office are spare in comparison with those of the other offices. There is hardly any action, save for the exchange of singers in the pulpit between Quare sic aspictis and Quis est iste (see below). The third of the three versicles, Iste formosus depicts the second coming of Christ, but no figure acts his part; he is present only in the music. Nor is there any cum organo polyphony at the conclusion, as there is in the Annunciation and Purification offices—when the last note of Iste formosus has been sung, the Ascension office is over.

82 “There is no incident in the life of Jesus at once and the same time so beset with difficulties and so essential as the Ascension.” William Barclay, The Mind of Jesus (New York: Harper, 1961), 315. “It may well be the most neglected doctrine of the church, even though it is considered one of the most important themes in the New Testament, and the heavenly intercession and parousia are inexplicable apart from it and the doctrine of God makes no sense without it.” Norman R. Gulley, The Anchor Bible Dictionary, s.v. “Doctrine of Ascension,” 1:472.
83 “So then after the Lord had spoken unto them, he was received up into heaven, and sat at the right hand of God”; Mark 16:19. “And it came to pass, while he blessed them, he was parted from them and carried up into heaven”; Luke 24:51. Both Gospels conclude immediately thereafter.
84 The doctrine of the session at God’s right hand is drawn from the Psalms, and in particular Psalm 110: Dixit dominus domino meo sede a dexteris meis (“The lord said to my lord, sit at my right hand.”) See Gulley, s.v. “Doctrine of Ascension,” 1:472.
The office begins when all are gathered at the altar of the Holy Cross and the cantor sings the incipit of *Omnis pulchritudo*; the full choir then joins at *domini exaltata est*.

**Fig.VII.31: Omnis pulchritudo (Responsory from the first Nocturn of Matins for Ascension Day)**

When finished, two clerics, standing in the pulpit and holding books of silver (*libris de argento*) then sing the versicle *Quare sic aspicitis*; (text and transl. below). This text is a paraphrase of Acts 1:9-11. Its purpose is to upbraid the Galileans—who are still staring into heaven—for their lack of faith. Like *Ave gratia* and *Susciens Symeon*, *Quare sic* is also polyphonic, but for the first time, the music is measured, and is copied in Italian mensural notation.

*Quare sic aspicitis viri Galilei, in celum post Dominum, non credentes ei?* (Wherefore are you looking into heaven after the Lord? You do not believe him? It is certain he will come and that you will see him.) [Paraphrase of Acts 1.11].

The rubrics next indicate that two clerics dressed as angels ascend to the pulpit and holding the cross, sing the versicle *Quis est iste, qui venit de Edom, tinctis vestibus de Bosra?* (“Who is this who comes from Edom with garments from Bozrah stained crimson?”). This is the first line of Isaiah 63:1, in which the prophet describes the day on which the Lord will exact vengeance on the enemies of Israel, i.e., the Edomites. This text signals that the Ascension is already behind us, and that the action is turned to the second coming of Christ, which is foreshadowed in Isaiah 63:1-6.

The fourth and final versicle, *Iste formosus in stola sua, gradiens in fortitudine sua!* (“He who is mighty, marching in his great strength!”) is the second line of Isaiah 63:1. It is performed by the same two
clerics, who elevate the cross as they sing. According to the rubrics, when they reach the middle of the versicle, they are to turn and face the people: (*et cum perveniunt in medio versu, revoluunt se versus populum*) When they are done singing, the office is over.

* * * * *

Two observations about this office are in order before moving on to the analyses. First, regarding the two books with silver covers that the clerics who sing *Quare sic aspicitis* hold: books with silver covers are also mentioned in the rubrics for the Annunciation. One is held by the subdeacon as he reads the Old Testament lesson, and is therefore an *Epistolary*; the other is held by the Deacon, from which he reads the Gospel, and is an *Evangelary*. Neither would have been useful for the singing of *Quare sic aspicitis*, so perhaps they were meant to be symbolic. The two men who chastise the Galileans are divine beings (as indicated by their white robes) and it would be appropriate for them to hold a book of scripture as *Quare sic aspicitis* is sung. On the other hand, they might have held the music that was being sung. I don’t think this is very likely, however, as these books would somehow have to be passed to the two angels who follow, and the rubrics neither explain how nor mention the books in conjunction with the angels.

But it does seem like this office is different than the others: spare in directions and more infused with symbolism. Hence, my second observation. I stated above that Ascension is theologically problematic; the Ascension office in C55/56 is also the only office for which mensural polyphony was composed. This might just indicate that it is that much later than the others, but might not there be a connection between the theological problems and the adornment of its dramatic office with a new, more elaborate and special kind of polyphony? As we will see shortly, each of the unusual accidentals has the possibility of signaling non-Pythagorean intonation, and all those of *Quis* and *Iste* exactly match examples from *Lucidarium*.

**VII.4.3.2 — Quare sic aspicitis**
An analysis of *Quare sic aspicitis* begins with its text, which is spoken by a pair of divine interlocutors. Their purpose is to remind the Galileans of Jesus’ instructions to return to Jerusalem and await the Holy Ghost.\(^\text{85}\) There is a sense of urgency in their words: Jesus has only just disappeared into the clouds—and the Galileans are still staring up at the spectacle—when they are told, in essence, to “get moving.” In like manner, the five unusual accidentals of *Quare sic aspicitis* inflect the music in ways that give it a sense of forward motion reflecting the urgency of the text.

The music scribe of C55/56 has divided the paraphrase of Acts 1:11 that informs the text of *Quare sic aspicitis* into eight unequal sections, which he indicates in the manuscripts by a series of vertical strokes. Fig. VII.32 below shows each division in the transcription, the corresponding measure numbers, and the accidentals (highlighted in blue).

<table>
<thead>
<tr>
<th>Fig.VII.32: <em>Quare sic aspicitis</em>, Paraphrase of Acts 1:11</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. <em>Quare sic aspicitis viri Galilei</em> (m.9)</td>
</tr>
<tr>
<td>Why are you looking, men of Galilee, into heaven after the Lord do you not believe him?</td>
</tr>
<tr>
<td>5. <em>hic est</em> (m.18)</td>
</tr>
<tr>
<td>this is he who was taken from us into heaven it is certain that he will return and you will see him (again).</td>
</tr>
</tbody>
</table>

In the transcription, every measure is numbered: those measures that correspond with the vertical strokes in C55/56 are shown with full bar lines; the remainder are indicated by a short vertical stroke through the top line of the staff. I note that because there are two more accidentals in C55 than in C56, the edition of *Quare sic aspicitis* is a collation of both manuscripts: accidentals from C56 are labeled by letter and number (i.e., *a/1*, etc.); those from C55 are labeled by Greek letters (α; γ).

All five accidentals inflect progressions in which cmi progresses to d. Because these accidentals are the same as those that inflect Marchettan progressions in *Ave gratia plena*, and

\(^{85}\) Acts 1:4-8.
because non-Pythagorean intonation is possible in every case in *Quare*, I will continue with the assumption that the interval $c^\#$-$d$ is *diesis*, not *limma*.

The first three of these inflections (see Fig.VII.33 below) progress from $c^\#$-$e$ to $d/f$ (a/1 and b/2) or $c^\#$-$e$ to $b/d$ ($\alpha$).

The first sequence of a signed accidental followed by a vertical stroke occurs at *post*. Because the sense of the text—“why are you looking into heaven after (*post*) the Lord (*dominum*)”—does not resolve at *post*, this stroke cannot be a rest. If a/1 does in fact indicate *diesis*, then the narrow semitone between $c^\#$ and $d$ would create an strong pull towards its resolution—the minor third $d/f$ at measure 12—and propel the music forward to its textual resolution at *dominum*.

Nearly the same contrapuntal situation occurs immediately thereafter. Yet at *do-mi-num*, one would expect a sense of pause. In fact, given that the text up to this point has been posing a question—“why are you looking for the Lord?”—one would expect, textually, both a question
mark, and musically, a rest. But the inflection at α pulls the music into the next phrase—*Hic est*—in the same way that a/1 pulls *post* into *dominum*. Moreover, given that the next text phrase (*non credentes ei*) is also a question (“do you not believe him?”), the two can be read as a pair of linked questions: “why are you looking up … do you not believe him?”86

What is being asked of the Galileans is whether they believe that Jesus, whom they just saw ascend into the clouds, is really the long-awaited Messiah. But this turns out to be a leading question, because the text immediately turns from question to assertion: *Hic est qui assumptus est a nobis in celum* (“This is he [hic est qui] who was taken from us into heaven!”). We will see similar parallels in language in the final two songs of the Ascension office: *Quis est iste* (Who is this?), and *Iste formosus* (He who is mighty!); I will also revisit the uninflected progression at *Hic est* below. The inflection c#-e at *in celum*, b/2, resolves, like that at a/1, to d/f, but here *celum* is elongated for a full three measures—as if to underscore its importance—before resolving to a unison e in measure 25.

The fourth and fifth accidentals (γ; c/3) of *Quare* also resolve to a unison, but this unison is d/d, not e/e; (see Fig.34:i-ii below). Here, the questioning is over, and the assertions that Jesus—now the Christ—will return in glory and in judgment are made: *certe ita veniet* (“it is certain that he will come”) and *ut vidistis eum* (“as you saw him”).

The vertical stroke at *veniet* (γ; see Fig.VII.34:i below), like that at *dominum* (α; VII.33:ii above), suggests—along with the text—that a pause might be appropriate, but the strength of the c’-d progression in both places pulls the music into the next phrase, regardless.

86 The Ascension is over by the time the interlocutors ask the second of these questions, yet they ask it in the present tense: “do you not believe him?” instead of “did you not believe him?” that would make more sense to us. I believe the question “do you not believe him?” was another way of asking “do you not have faith?” And given that faith exists only in the present moment, the question must be asked in the present tense.
None of the c^e-d progressions in *Quare sic aspictis* match any of the examples in *Lucidarium*. There is, however, one that exactly matches *Lucidarium* Ex.9b. This is the junction of text phrases 4. *non credentes ei?* and 5. *Hic est (qui …)* shown in Fig.34:iii above. This progression is noteworthy for several reasons. The musical progression is clearly to G/g at measure 17, but the question being posed in the first text segment (“do you not believe him?”) ends in measure 16; the next idea (“This is he …”) begins on what sounds, musically, like it should be the close of the previous idea. Thus the textual and musical ideas overlap, which seems to be in keeping with the constant forward motion, both textually and musically, of this song.

Interestingly, this progression is not inflected. If there is any moment that could lay claim to inflection—and with the backing of Marchetto no less—it is this progression. But the scribes of C55/56 are silent on the matter.
VII.4.3.3 — Quis est iste and Iste formosus: Textual Background

Quis est iste and Iste formosus mark the change from Ascent to Judgment in the Ascension office. Like Quare sic aspictis, their texts—drawn from the first two lines of Isaiah 63:1 (see Fig.VII.35 below)—are crucial to an understanding of the music.

<table>
<thead>
<tr>
<th>Fig.VII.35: Quis est iste, Isaiah 63:1</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>quis est iste</strong> qui venit de Edom</td>
</tr>
<tr>
<td>tinctis vestibus de Bosra</td>
</tr>
<tr>
<td><strong>iste formosus</strong> in stola sua gradiens</td>
</tr>
<tr>
<td>in multitudine fortituidinis suae</td>
</tr>
<tr>
<td>ego qui loquor iustitiam et propugnator</td>
</tr>
<tr>
<td>sum ad salvandum</td>
</tr>
<tr>
<td>Vulgate</td>
</tr>
<tr>
<td>Who is this that cometh from Edom,</td>
</tr>
<tr>
<td>with dyed garments from Bozrah,</td>
</tr>
<tr>
<td>he [who is] glorious in his apparel,</td>
</tr>
<tr>
<td>traveling in the greatness of his strength?</td>
</tr>
<tr>
<td>I that speak in righteousness,</td>
</tr>
<tr>
<td>mighty to save!</td>
</tr>
<tr>
<td>King James Version</td>
</tr>
</tbody>
</table>

In Isaiah, quis est iste and iste formosus are two parts of the same question: “who is this, he who is glorious?” The answer is the third line of the verse: “I that speak in righteousness, mighty to save!” The use of the first two—but not the third—of these three lines in the Padua Ascension office cannot be interpreted without some biblical exegesis. What follows is a summary of the religious and historical background of Isaiah 63, which I will attempt to conduct as briefly as possible.

VII.4.3.4 — Edom, Judah, and Israel

The ancient kingdom of Edom occupied what is now the south of Israel (part of the ancient kingdom of Judah) and the western part of what is now modern Jordan; its capital was at Bozrah, (now Busayra, Jordan). The Edomites were the hereditary enemies of the Israelites and there was constant conflict between them. The Edomite kings are chronicled in Genesis 36, and as a people they are reviled in Psalm 137:7, Jeremiah 49:7-22, Obadiah 1:1-4, and especially Isaiah 34:5-8.

87 Spelled formonsus in the Vulgate, but formosus in C55/56.
Isaiah 63, from which the texts of *Quis est iste* and *Iste formosus* are drawn, prophesies that the Lord’s day of judgment will come first to Bozrah (63:1); that he will crush the Edomites like grapes in a winepress, and that his garments will be stained red with their blood (63:2-3). This is followed by the statement: “the day of vengeance is in mine heart, and the year of my redeemed is come” (63:4).

The first three lines are clear enough, but the fourth—a day of vengeance and a year of redemption—requires some explanation. Judgment may have come first to the Edomites, but Isaiah indicates that it will be visited upon the Israelites as well; indeed, the first and second lines of Isaiah 63:1 (*quis est iste* and *iste formosus*) mark its arrival. But both the third line of 63:1 and all of 63:4 promise the Israelites salvation and redemption following their judgment. Indeed, the contrast between a day of judgment versus a year of redemption is indicative of the special relationship between the Israelites and their God.

* * * * *

To Isaiah, the respondent in 63:1 who describes himself as “mighty to save” was the Messiah who was yet to come. To the medieval clerics of the Cathedral of Padua, he was Christ, who had both come and gone, but who, on the day of his Ascension, left with the promise to return. 88 Because the issue of his identity had—at least from the Christian perspective—been resolved, the question posed in Isaiah 63:1 (“Who is this …?”) was rhetorical to the Paduans: “This” (or in the nominative, “He”) was Christ. This explains why, in Padua C55/56, the setting of Isaiah 63:1 line 1 (*Quis est iste…*) is answered by line 2 (*Iste formosus…*).

* * * * *

88 Christ promises to send the Holy Ghost, which he does three days later, on Pentecost; the promise that Christ himself will return was spoken by the interlocutors; see Acts 1:11.
Finally, to Isaiah, the Messiah was long desired and not yet come: Isaiah was predicting the future in indefinite time. Likewise, for the Padua clerics whose job it was to construct the dramatic office of Ascension, the return of Christ had not yet occurred. This may explain why the music heralds the arrival of the Messiah, but leaves the details of judgment and redemption to the future.

**VII.4.3.5 — *Quis est iste***

At thirteen measures, *Quis est iste* is a very brief piece of music; so brief, in fact, that all of it can be fit into Fig.VII.36 below. There is only one accidental, which inflects the word “Edom.”
If the lower and upper voices are exchanged (and transposed up a fourth), the progression across mm.4-6 is an exact match for *Lucidarium* Ex. 6c. While I have maintained that Wolf erred by connecting dots to *dieses*, this inflection and the following to certainly argue for it.

**VII.4.3.6 — *Iste formosus***

The inflection at *Iste* is an exact match of *Lucidarium* Ex.3c, and there is chromatic motion from gsol to g^# to g^\#. Like the accidental in *Quis est iste*, the accidental at *Iste* has four clearly visible dots. If there really were a correspondence between dots and *dieses* at some point...
in the history of dots and microtonality this inflection would be the strongest argument in favor of it.

Finally, I note that this inflection both opens the music and underpins—at length—the word *Iste*, which to the creators of this dramatic office would have been understood to signify Christ. I therefore suggest that the occurrence of this progression (which is straight out of *Lucidarium*), the unusual accidental, and the invocation of Christ in Glory on the day of Judgment is not a coincidence. I further suggest that there is every reason to believe this progression should be intoned microtonally, and every reason to believe that in doing so, the attention it would call to the text was intentional on the part of the authors of this music.
VII.5 — Ciconia’s *Sus une fontaine*

VII.5.1 — Introduction

In this final section, I examine the dotted *b-quadrati* of Ciconia’s virelai *Sus une fontaine*\(^8^9\) as transmitted in the Padua Fragment Ox 229, now in Oxford. The history of transcription of the two sources of Ciconia’s song has long favored the Modena source, now shown to be later than—and more physically distant from—the composer than the Oxford source. In what follows, I show that the accidental signs of the Modena source almost entirely fail to replicate those of the Oxford source, and that editions based upon the Modena source represent a considerable distortion of Ciconia’s intentions as expressed in the Oxford source. This necessitates what I call the “New Parallel Transcription,” which separates the two sources and their accidental signs so that both can be examined separately. I argue that what emerges from such an examination is an understanding that the inflections of the Oxford source are closer to the musical design of Ciconia than those of the Modena source, and moreover that the use of unusual accidentals in the Oxford source—a series of *b-quadrati* with four dots in their *quadratum*—are indicative of non-Pythagorean intonation.

Following Anne Stone’s suggestion that Ciconia was playing an elaborate game of “name that tune” with his listener, I show that Ciconia’s design for this song uses non-Pythagorean intonation to spotlight crucial words in his text, and with a combination of text and a set of line drawings, I examine what the process of recognition for a first-time listener to *Sus une fontaine* might have been. While underscoring the crucial importance of the first quotation, my analysis

\(^8^9\) The Modena source of Ciconia’s virelai identifies it as “Sus un fontayne”—or, “Sus un’ fontayne” in modern transcription; in Ox 229, it is “Sus une fontaine,” and hence, so-called herein. It has been demonstrated that the latter source is closer to Ciconia than the former (see n.98\{4025\} below); I therefore spell its name “Sus une fontaine” (unless I am referring to the Modena recension, in which case I spell it “Sus un’ fontayne”); see n.90 below for bibliographic details on the sources and the transcriptions of Ciconia’s song.
points to the silence at the conclusion of the song as perhaps the first moment a listener would be able to comprehend both the full set of quotations and Ciconia’s skill at incorporating them into his song. It is in this silence, following the final words “en attendant” (“while waiting”), that the listener might also conjure the text, not of the B section of Ciconia’s virelai, but of the original ballade: “en attendant souffrir.” If so, the listener might also hear in his mind’s ear the original progression D/bfa/fx-C/c/g at souffrir, which is inflected by an unusual accidental in all three sources of En attendant souffrir m’estuet.

This leads to an investigation of the accidentals in all sources of the three ballades from which Ciconia quotes, and the discovery that unusual accidentals are present in all of them. Thus, the chapter concludes with the possibility that non-Pythagorean intonation was a part of the tradition in which Filippotto da Caserta worked, and possibly one more way in which Ciconia hinted to his listeners the identity of the composer he was quoting.

VII.5.2 — Background to the Song

Johannes Ciconia’s three-voice virelai Sus une fontaine, composed c.1400, survives in two sources: Oxford, Bodleian Library, MS Canon. Pat. Lat. 229, f. 38v (Padua, early 15th century; hereafter Ox 229), and Modena, Biblioteca Estense, MS a.M.5.24, f.27r (Milan, Pisa

and Bologna, c.1410; hereafter ModA). It is well known that Ciconia wove quotations from the songs of Filippotto da Caserta into the musical fabric of *Sus une fontaine*, taking both the text and music from the openings of the ballades *En remirant vo douce pourtraiture*, *En atendant souffrir m’estuet*, and *De ma dolour*. It is also well known that the mensuration signs of the two sources of *Sus une fontaine* do not agree: in ModA, they are “normal”; in Ox 229 they are “eccentric.”

It has now been demonstrated that Ox 229 is closer to Ciconia both in time and place, and therefore almost certainly a more accurate reflection of Ciconia’s original intentions. On this basis, one might expect that Ox 229 would have been the source on which most transcriptions of *Sus une fontaine* were based, but this is not the case: of six published editions, only one is a transcription solely of Ox 229. The other five all privilege ModA to one extent or another.

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91 The last line of the contratenor appears on the bottom stave of f.26v. According to Anne Stone, the best estimate of the date of the older layer of ModA is that it was compiled in Milan, Pisa and Bologna “in the latter part” of the first decade of the fifteenth century; see “A Singer at the Fountain: Homage and Irony in Ciconia’s *Sus une Fontayne*,” *Music & Letters* 82, no.3 (2001): 379. For a color facsimile of ModA, see Giuliano Di Bacco, *Il codice α.Μ.5.24* (ModA) (Lucca: Lim Editrice, 2003).

92 Richard Hoppin was the first to call attention to the full extent of Ciconia’s borrowings from Filippotto in his Review of Clercx 1960; see *The Musical Quarterly* 47, no. 3 (Jul. 1961): 417 n.1.

93 *En remirant vo douce pourtraiture* is transmitted in the mss. I-MOe α.Μ.5.24, f.34v (ModA); F-CH 564, f.39r (Ch); and F-Pn n.a.fr.6771, f.80v (the Reina codex; Pr). *En atendant souffrir m’estuet* in ModA, f.20r; Ch, f.33v; and Pr, f.84v. *De ma dolour* in ModA, f.26v; and Ch, f.32r. Modern editions: *En remirant* in PMFC vol. xix, no.57, 21–24; *En atendant* in PMFC xviii, no.45, 125–27; and *De ma dolour* in PMFC xviii, no.42, 117–19. See also the transcriptions in Vol. II of Jason Stoessel’s 2002 dissertation (full citation in n.90 above): *En remirant*, no.15, 69–73; *En atendant*, no. 16, 74–77; and *De ma dolour*, no. 31, 140–43.

94 {4025} “The signatures of [Ox 229], which do not agree with [ModA] except in use of O, are self-consistent (and therefore not called “err”) but eccentric,” PMFC xxiv, 216. Stone argues that the “eccentric” mensuration signs of Ox 229 are part of a deliberate game that Ciconia plays with his readers: “I should like to suggest that in *Sus une fontayne* the game of quotation, and its accompanying irony, involves more than the mere allusion to three of Filippotto’s works; it also engages the narrative strategy of *Sus une fontayne*’s text, and even, I shall argue, extends to the musical notation in the eccentric use of mensuration signs in [Ox 229]”; see Stone, “Singer at the Fountain,” 369. Jason Stoessel, while not disagreeing with Stone’s premise of intertextuality and gamesmanship, presents evidence that the mensuration signs in the Ox 229 recension were neither eccentric nor unique to that source; see “The Interpretation of Unusual Mensuration Signs in the Notation of the *Ars subtilior,*” in *A late Medieval Songbook and its Context: New Perspectives on the Chantilly Codex*, ed. Yolanda Plumley and Anne Stone, (Turnhout: Brepols, 2009), 180.


This state of affairs has served to obscure the considerable differences in the type and disposition of accidental signs used and which none of the published editions reflects—either in their transcription or critical apparatus—with anything approaching complete fidelity.\textsuperscript{98} If the two sources are transcribed in parallel and their accidentals signed where they appear in each, what emerges is a picture of one song with two quite different readings. Yet it is all but impossible to determine this from the published editions.

This in turn has obscured the fact that the Ox 229 recension uses unusual accidentals in the quoted material from \textit{En remirant vo douce pourtraiture} and \textit{En atendant souffrir m’estuet}. The differences between the two readings would be greater still if the unusual accidentals in the Ox 229 recension of \textit{Sus une fontaine} signal non-Pythagorean intonation. And although they are clearly visible in photographs, even less well known, evidently, is the fact that in sources of the three ballades by Filippotto from which Ciconia quotes there are a number of unusual accidentals whose presence suggests that non-Pythagorean intonation may have been part of the tradition in which Filippotto worked.

In what follows, I present evidence suggesting that Ciconia used microtonal inflections in \textit{Sus une fontaine} to call attention to important words in the text, and perhaps also to invoke Filippotto in the ears of his listeners. In order to do this, it is necessary to separate the two sources into a parallel transcription. This will allow the reader simultaneously to compare them

\textsuperscript{97} The first edition of \textit{Sus une fontaine}, in FSM (1950), is a transcription of ModA, only; Clercx (1960) is a parallel, handwritten transcription of both sources with ModA over Ox 229; FSC (1970) is a transcription of ModA with annotations and ossia (incomplete) to present the variant details of Ox 229; the OAM edition (1977) is based solely on ModA; PMFC xxiv (1985) is the first edition to collate both sources in a single transcription and to provide an exhaustive critical apparatus. I make the case below that it privileges ModA over Ox 229; see VII.5.3 below and especially the notes to the NPT.

\textsuperscript{98} This may seem like an especially harsh criticism, but while Bent and Hallmark catalog every accidental in their critical apparatus, they fail to include two particularly important accidentals from Ox 229 in their edition; see the commentary to \textit{j/3} and \textit{d/4} in the transcription below.
to one another, and to see, on a case-by-case basis, that ModA is an imperfect copy of the Ox 229 source.

**VII.5.3 — A New Parallel Transcription of ModA and Ox 229**

The format of the New Parallel Transcription (hereafter, NPT) intentionally follows that of PMFC xxiv, ostensibly the most complete edition of the song currently available, and the only edition to provide an exhaustive set of critical notes. Yet because the editors of that edition indiscriminately mixed the accidentals of the Modena and the Padua sources and, in particular, because they excluded a series of accidentals present in the Padua source that I believe were authorial on the part of Ciconia, my intention with the NPT is to fully separate the accidentals from the two sources so that the reader can finally distinguish the outlines of the Padua source against those of the much better known Modena source.

The reader will note the complete absence of mensuration signs or time signatures in my transcription. This reflects my intention to focus solely upon the accidental signs and the inflections they signal. In the effort to present the two sources as they appear in their manuscripts, I have not added editorial accidentals, save for a single place where the counterpoint and another signed accidental pointed to its necessity. Neither have I indicated ligatures, save for those places where coordination between the image from the manuscript and the transcription proved useful for the sake of clarity.

The images of accidental signs from both manuscripts are accompanied by commentary that refers the reader both to bibliographic source information and to the full description and

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99 The transcription is nevertheless completely performable. The reader interested in the mensuration signs will find those of ModA in FSM, Clercx, OAM, and PMFC xxiv; those of Ox 229 in Clercx and Stoessel. Modern time signatures may be found in FSC and PMFC xxiv; see n. 90 above for citations of the editions.

100 Measure 28, perhaps based on iii in ModA, but evidently necessary on the basis of f/6 in Ox 229; see the NPT, 3–4.
analysis in my running text. While both sources are transcribed and collated, only the variants of ModA are shown on the top three staves. Thus an empty measure in the ModA transcription indicates that its pitches and rhythms are identical to those of Ox 229. Pitches that are inflected, however, are shown, along with an image of the accidental sign, regardless of whether there is any difference in rhythm.

The reader will note two passages (mm.17-19 and m.68) framed by dotted brackets above which are bibliographic references. These locations identify the notational anomalies that were the basis of the recognition of ModA as posterior to and more distant from Ciconia than Ox 229. These two passages aside, the reader will note how few and how insignificant are the remainder of the notational variants, while at the same time, how many and how substantial are the variants among accidental signs: both their placement and their shapes. Leaving aside the issue of the conflicting mensuration signs, the NPT demonstrates that in terms of pitch and rhythm, both sources are virtually identical. Regarding their inflections and the accidental signs that signal them, however, the two sources are substantially different. It is this difference that the NPT intends to make explicit.

* * * * *

An unfamiliar feature of this transcription is the use of round and square brackets in progressions to indicate the functional tenor (indicated by square brackets), and the functional cantus (indicated by round brackets). A progression in which the voices move normally (i.e., Tenor descends by whole-tone; Cantus ascends by semitone) will be framed by pairs of brackets in open and closed position: [ ] & ( ). The presence of a single bracket indicates either a unison with another cadencing voice (see, for instance, the cantus, measure 18), or an irregularly formed progression (Ct, measure 9).
And until now I have attempted to steer clear of the question of whether the sharp is also an unusual accidental, but given the sharps in the ModA recension, the question has become unavoidable. Of its seven sharps, only two correspond to *b-quadrati* in the Ox 229 recension: \( d/4 \) (which is a dotted square-b in Ox 229), and \( a/10 \) (which is a normal square-b in Ox 229). This is too little information upon which to hazard even a guess, but my analysis of the accidental signs of the sources of the three ballades Ciconia quotes—especially *En remirant vo douce pourtraiture*—suggests that for the scribe of ModA,\(^{101}\) the sharp was equivalent to the normal square-b. If so, this would mean that \( d/4 \) in ModA signals the Pythagorean minor semitone, while \( d/4 \) in Ox 229 indicates a microtone, as I will argue below.

One final note: my process of uniquely identifying accidental signs, in which letters indicate the sequence of accidentals in the manuscript and numbers indicate their appearance in the score, and which has worked well for music in which there is only one source, does not work for music in which there are multiple sources. An ID system that is faithful to each individual source becomes, upon collation, a maze of labels that fail to show any of the commonalities that is the primary purpose of a collation. Yet a system that is at the same time able to show inflections that occur in two or more sources, while also demonstrating non-agreement among sources requires the privileging of one source. Fortunately, there are only two sources of *Sus une fontaine*, and the “privileged” source, Ox 229, deserves its privilege. Thus, the inflectional IDs of Ox 229 in the new parallel transcription follow the letter/number system described above (and in Chapter I), while those of ModA are labeled with a simple roman letter unless they correspond to an accidental in Ox 229, in which case they share the same ID as Ox 229.

\(^{101}\) I refer here to the scribe of fascicles II-IV; a second scribe was responsible for copying fascicles I and V.
Sus une fontaine

On the basis of a pair of anomalies in its rhythmic notation, the ModA recension of *Sus* has been shown to be later than that of PadA; (see Hallmark, "French Influence," p. 208, and Stone, "Singer," pp. 380-81). When the accidentals of these two sources are compared, that distance is increased. ModA has a series of inflections to the Cantus that were probably not necessary to sign (and which do not appear in PadA), but is missing four important inflections in the Tenor that do appear in PadA, and which are almost certainly authorial on the part of Ciconia; (see the commentary to b/1, e/5, g/7, h/8, and my text, pp. ________).

\[ b/1 \] inflects the long progression at the word “fontaine,” anticipates the quotation of “en attendant” and the inflection h/8 (mm. 51-55), and is essential, both musically and textually, to Ciconia’s song. Its absence from ModA is an indication of that source’s more distantly related reading.

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vii: probably intended as a surrogate for the b\(\text{b}\)a signature of the source, but signed 2.5 mm. late and subsequently treated as a momentary inflection in all published editions (save for FSC); there are no signed flats in the Ct of ModA, whereas the source has a b\(\text{b}\)a signature in both T and Ct. The ModA quotation of “en remirant” is further corrupted by the scribe’s solution to an error in his source, mm. 17-19, which eliminates the progression to F in m.18, and leaves d\(\text{d}\)/4 an orphan; cf. the PadA recension below; see also Stone, “Singer,” pp. 380-81, and my text, pp.____.

d\(\text{d}\)/4: Ciconia’s quotation of “en remirant” in PadA is verbatim except for the Tenor inflection d\(\text{d}\)/4 at m.17; ModA retains this inflection (see comments at vii), signing it with a sharp; (see comments at i and d\(\text{d}\)/4 below).

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j/3 & c\(\text{l}\)/2 are surrogates for the signature flats of the source; j/3 is signed a beat late, but still well in advance of the first inflection it causes; c\(\text{l}\)/2 occurs at what is the beginning of measure 1 of the source; both are necessary if the music of the source is to be quoted accurately—in particular, the progression to F across mm. 17-18; (see p.____). The editors of PMFC xxiv neither recognize these signs as signatures, nor do they show them in their edition.

d\(\text{d}\)/4 is inflected by a “dotted” square-b, the first of three such signs in PadA; though it cancels c\(\text{l}\)/2 and marks the end of the first quotation, the editors of PMFC xxiv do not show this inflection in their edition; neither do they question the significance of its dots nor observe that ff\(\text{f}\) (meas. 28) inflects the same pitch, but does so with a normal sq-b; (see p.____).
ii & iii: like i, these two sharps inflect stock cadential formulae; neither is present in the PadA recension. While perhaps unnecessary from the standpoint of notation, both seem musically necessary.

e/5 continues the tonality of “en remiante” until f/6 cancels it; both signs are missing from ModA.

f/6 cancels e/5, but also helps to prepare the progression at “cuér” (mm. 31-33; g/7); a normal sq-b suggests a Pythagorean minor semitone.
**iv** is the fourth of four inflections of stock progressions in the Cantus of the ModA recension of *Sus une fontaine* that do not occur in the PadA recension; (see the discussion at I).

The image to the right is a composite of the end of ModA f.27r, line 2 and the beginning of line 3. The scribe appears to have written the notes first and inserted the accidentals second; he should have signed *iv* one note earlier.

**g/7** is the 2nd of three dotted b-quadrati in the PadA recension of *Sus une fontaine*; (the third, b/8, occurs in the quotation “en attendant,” mm. 52-53). The inflection is similar (i.e., long and static) to that at b/1, but the dotted square-b suggests “cuer” is an especially important word in the text. For a discussion of the word “cuer” in the context of this song, see Plumley, “Ciconia’s *Sus un’ fontayne*,” pp. xx-yy; for the possibility that this inflection reflects backwards on the quotation of “en remirant”, see my text, pp. ___.

— 252 —
Sus une fontaine pg. – 6 –

**v:** “en attendant” is the second of three quotations from the ballades of Filippotto da Caserta in *Sur,* and *v* is a surrogate for the bfa signature of the Cantus in all three sources of *En attendant souffrir m’estuet.* The lower two voices have Efa/bfa signatures, which *v* evidently represents. Does it also reflect the minim it is signed beneath?

It is remarkable that there are no signatures in the PadA version of this quotation, especially in light of the care taken to indicate the signatures of *En remi*rant ve douce portraiture in the quotation inflected by *di4.* Equally remarkable is the absence of an equivalent for PadA’s *h8*; (for discussion on the accidentals of this quotation, see my text, pp. ___).

**h8:** the third dotted square-b in the PadA recension of *Sur,* non-Pythagorean intonation seems both plausible and likely here. (*If b1 and “fontaine” are meant to suggest Filippotto’s fountain in *En attendant souffrir m’estuet,* then the conscious realization of that suggestion should occur here.) Like *di4,* *h8* also highlights the second syllable of a key word in the title of the song being quoted; (see the discussion of “fontaine” and “remi*nant,*” my text, pp. ___). And like *di4,* *h8* is Ciconia’s interpolation into the quotation.

Given that the progression across mm.52-55 is: a) the end of the virelai’s *A* section; b) the last music to be heard at the conclusion of verse 5; and c) textually inconclusive (“en attendant” = “while waiting”), the question Ciconia seems to be posing is: waiting for what? (See the discussion of “souffrir,” my text, pp. ___).
Sus une fontaine pg. – 7 –

vi should be considered a surrogate for the bfa signature in the Cantus of the sources, despite not being signed in line with \( \text{v9} \) (see below); like \( \text{v}3 \) (m.11), vi is close enough.

\( \text{v9} \) marks the beginning of the quotation of *De ma dolore*, and is clearly a surrogate for the Efa signature in the Tenor of the source. Like \( \text{v} \) (m.52)—but unlike \( \text{vii} \) (m.13, the corrupt surrogate for \( \text{ci2} \)—it is signed so as to appear at the start of the line.

\( \text{i9} \) is ostensibly a surrogate for the Tenor signature flat of *De ma dolore*, but whereas the Tenor of both sources (Ch and Mod\( \lambda \)) is under a single Efa signature, Pad\( \lambda \)’s signature \( \text{i9} \) is bfa, not Efa.
a/10: Of the three quotations of Filippotto that Ciconia weaves into *Sus une fontaine*, only the quotation from *De ma dolour* has a signed inflection in the original music. In the ModA recension of *De ma dolour*, this accidental is a sharp with very attenuated vertical strokes; in Ch, it is *musica colorata*. In the ModA recension of *Sus*, the scribe uses the normal sharp; (see pp.______).

A pair of significant differences between the ModA and PadA recensions of *Sus* require mention here. My transcription of the Ct of PadA follows that of Jason Stoessel, who reads m.75 as shown and emends the first sb of m.76 from c to d, thus forming an a/a/emi - G/d/d progression. Yet both ModA and Ch transmit *De ma dolour* as it is quoted in the ModA recension of *Sus une fontayne* above. The questions this raises are many: why does PadA vary from its sources here; why is a/10 a normal square-b when d/4 and h/8 are unusual? For further discussion, see pp.______.
Sus une fontaine pg. – 9 –

pourt au cœu	for - - - -ment.

poent au cœu	four - - - -ment.

— 257 —
VII.5.4 — Remarks on the New Parallel Transcription

Fig.VII.38: Accidental Signs in Ox 229 and their Status in PMFC xxii

<table>
<thead>
<tr>
<th>Meas.</th>
<th>Acc. ID</th>
<th>Present in PMFC xxiv?</th>
<th>Citation in the Critical Commentary of PMFC xxiv</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>c/2</td>
<td>yes</td>
<td>“T: 11 flat Ob only”</td>
</tr>
<tr>
<td>11</td>
<td>j/3</td>
<td>no</td>
<td>“Ct: 11 Ob only, b-flat prec 4 (relates to T 11.2?)”</td>
</tr>
<tr>
<td>17</td>
<td>d/4</td>
<td>no</td>
<td>“T: 17 MOe, Ob b-sharp”</td>
</tr>
<tr>
<td>28</td>
<td>f/6</td>
<td>no</td>
<td>“T: 28 Ob b-sharp”</td>
</tr>
</tbody>
</table>

“A comparison of the two sources of *Sus une fontayne* with those of the ballades of Philipoctus reveals a close affinity of the *Ob* readings with Philipoctus’ ballade versions of *MOe* and *Ch*, while the *MOe* readings of *Sus une fontayne* frequently differ in detail. This suspicion that the Paduan source *Ob* provides a reading closer to the original version of *Sus une fontayne*, despite its eccentric mensural signatures, is strengthened by a passage in T 68 where *Ob* and *MOe* diverge, and where the added signatures and minim rests of *MOe* are a compounded error, and clearly not the original version.\(^{102}\)

As the above quotation makes clear, the editors of PMFC vol. 24 understand both that Ciconia quotes from the ballades of Filippotto and that Ox 229 (*Ob* in their notes) is closer to Ciconia than ModA. Yet they fail to recognize that the two flats in the T and Ct of *Sus une*

Fig.VII.39: Ciconia’s quotation of *En remirant* and the accidentals signs c/2, j/3, and d/4 in Ox 229

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\(^{102}\) Bent and Hallmark, *The Works of Johannes Ciconia*, PMFC xxiv, 216; see also the NPT, 7.
fontaine (see measure 11, c/2 and j/3, Fig.VII.39 above) are surrogates for the signature flats in all sources of En remirant vo douce pourtraiture.

C/2 is signed in the correct place in their edition, but not identified as a signature; j/3 is mentioned only in their critical apparatus, and then as if its purpose were unclear. Certainly the editors are able to determine that all three sources of En remirant have bfa signatures at the head of the T and Ct, and to recognize that c/2 and j/3 are surrogates for them (see Fig.VII.39 below). Yet despite their observation that the Padua source of Sus une fontaine has a stronger claim to authenticity than the Modena source, their edition is still influenced by ModA, in which the equivalent of c/2 (see the parallel transcription, p.2, mm.11-13, vii) is signed two measures too late, and in which there is no equivalent for j/3. Both c/2 and vii appear in their edition, but as if both are momentary inflections. Their failure to include j/3 and to recognize it and c/2 as surrogates for the original signatures renders their transcription of mm.11-19 of Sus une fontaine a distortion of Ciconia’s intentions.

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103 Anne Stone demonstrates that scribe II-IV of ModA clearly does not recognize Ciconia’s quotation of En remirant; see “Singer at the Fountain,” 380–81.
A still more significant omission is the absence of d/4 from their transcription. Ciconia seems to have taken great care to accurately reproduce the quotation from En remirant—much more so than in his quotations from En atendant and De ma dolour. His single deviation from the otherwise verbatim quotation of En remirant is d/4, which is not present in any of the sources and is therefore likely to have been Ciconia’s own interpolation. While d/4 is present in both recensions of Sus une fontaine, in Ox 229 the quadratum of d/4 is fitted with four dots (see Fig.VII.40 below), suggesting non-Pythagorean intonation. The editors of PMFC vol. 24 do not mention the dots in their critical apparatus, nor do they include d/4 in their edition, presumably because there are no signatures in Sus une fontaine, and evidently because they do not recognize d/4 as canceling c/2 (and also j/3) in measure 17.

Anne Stone, in suggesting that Ciconia is playing a sophisticated game of “name that tune” in Sus une fontaine, stresses the importance of this quotation for the first-time listener, stating that recognition of it is in fact essential.\textsuperscript{104} And while her argument concerns the mensuration signs of Ox 229 and not its accidentals, her conclusion is no less correct. The trio of “nonsensical” mensuration signs in measure 11 of the Ct that form the basis of her proof that the solution of this puzzle unlocks the remainder of the song can clearly be seen in Fig.VII.39 above, with the third of the three mensuration signs being written beneath j/3. Stone’s argument that the mensuration signs of Ox 229 are eccentric and require conversion in order to be correctly interpreted has recently been called into question,\textsuperscript{105} but her observation that the first quotation

\textsuperscript{104} “The only way to determine how to perform the piece is to recognize the quotations from Filippotto’s ballades and to extrapolate based upon knowledge of their original mensurations. In fact, the notation of the first quotation, from “En remirant,” in bars 11–19 of “Sus une fontayne,” contains further notational oddities that I suggest are designed to assist the performer to determine the correct interpretation of the mensuration signs”; ibid., 386.

\textsuperscript{105} “I propose an alternative [to Stone’s] interpretation of the mensuration signs in the Pad A 229 transmission of Sus une fontayne. This interpretation holds that these mensuration signs are neither “eccentric” nor intentionally ironic … and therefore are not part of this work’s narrative process. Rather, I demonstrate that this category of signs in Sus
from Filippotto is especially important seems borne out by the framing of “en remirant” with c/2, j/3, and the three “nonsense” mensuration signs in measure 11, and with d/4 in measure 17.

As with d/4, Bent and Hallmark also chose to omit f/6 from their transcription; (see Fig.VII.40 below). Their decision evidently stems from the lack of signatures in Sus une fontaine and their judgment that e/5 is a momentary inflection. While these may both be true, the fact that Ciconia signed a canceling square-b (i.e., f/6) in measure 28 has a significance to his conception of Sus une fontaine that the editors of PMFC vol. 24 neither recognize nor indicate in their edition, and moreover have buried in their critical apparatus, where it is destined to remain hidden. Yet not only does f/6 cancel e/5 in the Ox 229 recension, it also sets up a pair of progressions that underscore the words “que mon cuer” in mm.29-32. These, in turn, echo a similar phrase in En remirant vo douce pourtraiture, to which I will return in VII.5.6.1.

Fig.VII.40: Sus une fontaine, From e/5 to g/7

It is not often that we are able to describe the accidental signs in a medieval manuscript as authorial, but it would seem that all of the b-quadrati in the Tenor of the Ox 229 recension of Sus une fontaine are Ciconia’s. The editors of PMFC vol. 24 appear to have been engaged in

_une fontayne_ also occurs in other works from the late fourteenth century. Stoessel, “The Interpretation of Unusual Mensuration Signs,” 180.
their project to collate and publish the works of Ciconia at a time when the primacy of the Ox 229 recension of *Sus une fontaine* was coming to the fore but not yet fully appreciated, and the influence of the ModA recension, the first transcription of which was published by Willi Apel in 1950, was still highly influential. My intention in re-transcribing these two sources and presenting them in parallel transcription is first to fully separate them, and second, to bring the Ox 229 source to the fore, where Ciconia’s intentions can be assessed without influence from the more distant ModA source.

** * * * **

One last matter needs to be illustrated before moving on. Of the three pitches (b, c, and F) inflected by dotted *b-quadrati* in the Ox 229 recension of *Sus une fontaine*, two of them are at some other point in the song inflected by normal *b-quadrati*; see Fig.VII.41 below.

![Fig.VII.41: Coincidence of normal and dotted b-quadrati in the Tenor of Sus une fontayne, Ox 229](image)

<table>
<thead>
<tr>
<th>a:</th>
<th>d/4</th>
<th>b:</th>
<th>g/7</th>
</tr>
</thead>
<tbody>
<tr>
<td>f/6</td>
<td>b/1</td>
<td>h/8</td>
<td></td>
</tr>
</tbody>
</table>

It can be seen that the scribe of Ox 229 invested extra effort in the two dotted signs, d/4 and g/7, stopping to add a roughly triangular insert in each corner of the *quadratum*. This must have lengthened the time necessary to execute these signs, and it raises the question as to why the scribe spent the extra time and effort on these two signs (as well as the third, h/8, not shown here but visible on p.6 of the NPT). The editors of PMFC vol. 24 evidently never considered the
question: neither f/6 nor d/4 appears in their edition. In what follows, I argue that the two varieties of square-b are indeed different, and that while the normal square-b signals inflectional information, only (i.e., in the manner of a modern accidental), the dotted square-b transmits both inflectional and intonational information.

VII.5.5 — Analysis

Taking as my point of departure Anne Stone’s characterization of Sus une fontaine as an elaborate game of “name that tune,” in what follows, I show that Ciconia used inflection—both normal and unusual varieties—in Sus une fontaine as a way to capture the listener’s attention and to focus it on key words in the text. To demonstrate this, I posit a listener who has enough familiarity with the music of Filippotto da Caserta to be able to recognize the quotations from his ballades, but not so much as to be able to name them immediately. In other words, a listener who might benefit from a hint or two, and for whom the repetitive structure of the virelai, which offers a second—sometimes a third—pass through the music, is not only useful but perhaps necessary.

I also make use of a second construct—to which I refer as an “arc of perception”—to illustrate the process of recognition such a listener might undergo during a first hearing of Sus une fontaine. My analysis reveals the presence of a series of these arcs, each of which is diagrammed and discussed below. They vary in length, from quite short to very long; some have subsidiary arcs nested within. Their length and composition notwithstanding, each has two things in common: an accidental—or set of accidentals—and a key word.

VII.5.5.1 — The First Arc / First Arcs

The first recognizable arc is the quotation of “en remirant” from da Caserta’s En remirant vo douce pourtraiture. Ciconia seems to have taken great care to set this quotation off for his
listener, framing it at the beginning with flats $c/2$ and $j/3$ (signed so as to be recognizable as the signature flats of the original), and at its end by the dotted square-b $d/4$.

The flats ensure that the music follows the original song,\(^{106}\) while $d/4$ highlights the word “remirant” at its conclusion. Interestingly—and perhaps also significantly—$d/4$ is not present in any of the sources of the original: I believe it to be Ciconia’s interpolation.

To return to my hypothetical listener: while it is possible that the first few bars of *En remirant* are sufficiently distinct, musically, to trigger a full recognition of the quotation, Ciconia transits so seamlessly from his own music (mm. 1-10) to that of Filippotto (mm. 11-19) that the listener might be well into the quotation before consciously realizing that the music he is hearing is the work of a different composer. Recalling the name of the song might take even longer. The text, which is mostly just a single, sustained vowel from measure 11 to the end of measure 16, is not of much help. If the listener needs a textual clue, it is probably not until the middle syllable of “re-mi-rant” is sung near the end of measure 17 that he might even start to recognize the text. And it is precisely here that Ciconia tinkers with the music, signing the unusual square-b $d/4$ and calling for—perhaps—a microtonal inflection where none was present in the original.

\(^{106}\) The Ct flat $j/3$ is missing from ModA, and the nearest equivalent to the Tenor’s $c/2$ is $vii$, which is signed two measures too late; see the NPT, 2.
Ciconia may have had more than one reason for signing $d/4$, but if “name that tune” was one of them, then he may have been offering a clue to his listener here. If so, it is important to note that this clue comes just moments before the quotation ends in measure 18 and Ciconia’s own music resumes. The listener thus has a relatively brief window of time—about one measure—in which to name the tune and its composer before the quotation is over and Ciconia’s own text and music continue.

This new text and music, which form a long arc connecting “en remirant” to the next quotation from Filippotto (“en attendant,” mm. 51-55), would be the next logical step in this analysis, but there is another arc—one that precedes “en remirant”—that must be reviewed first; (see Fig.VII.43 below).

Fig.VII.43: First Arc (perhaps unconscious) — “Sus une fontaine”

This arc sets the first three words of Ciconia’s text to mm. 1-10 of music. Like the arc of “en remirant,” “Sus une” is mostly a melisma on “u” across mm. 1-5, set to music that is rhythmically very active. What follows over mm. 6-10 is suddenly a very slow-moving progression in which the middle syllable of “fontaine” is sustained in the cantus for two measures while the progression resolves around it. The cmi-d semitone in the tenor is inflected by the accidental $b/1$. Like the arc of “en remirant,” the concluding syllable of “fontaine” comes

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107 For instance: signing $d/4$ changes the solmization of the pitch it inflects, and of the pitch before, to “re-mi.”
108 In the cantus, the quotation ends at the end of measure 18; it continues through the first half measure 19 in the lower two voices. The progression that $d/4$ inflects is already present in the quoted music, so it is not the progression itself that is the clue, but Ciconia’s inflection.
at the very end of the arc (measure 10), thus delaying the listener’s full comprehension of the text until the arc has nearly concluded.

There is a considerable degree of similarity between the textual-musical design of mm. 1-10 (“Sus une fontaine”) and mm. 11-19 (the pre-existent music of “en remirant”). Both phrases are prepositional phrases in which the prepositions themselves are set to long melismas, and their objects (“fontaine” and “remirant”) are inflected with b-quadrati b/1 and d/4. The two phrases are nearly equal in length: ten measures for “Sus une fontaine” vs. nine for “en remirant.” Both inflections occur in the seventh measure of the phrase, and both inflect the middle syllable of the object of the preposition, which is likely either the first moment the listener is able to parse the text of the phrase as a whole, or the moment just prior.

There are also important differences. If Ciconia is playing “name that tune” with his listener, then “remirant,” which names the song being quoted (and identifies its composer as well), is the most important word in the text so far—a fact that I believe Ciconia underscores with the inflection d/4. “Fontaine,” of course, is also an important word, but its significance may not yet be apparent to the listener in mm. 6-10, and may not be even fully understood until the quotation of En attendant souffrir m’estuet in mm. 51-55. Yet the fact that Ciconia lingers so long on “fontaine” suggests a desire on his part to securely plant this word in his listener’s mind. At the same time, he avoids calling the same degree of attention to it by inflecting it with a normal square-b. Thus, while the connection may be unconscious in the mind of the listener, the


110 “The citations are so seamlessly integrated [into Sus un’ fontayne] that they hardly interfere with the work’s coherence. Despite the integrity of the composition, it seems highly probably that Ciconia expected his audience to be wise to his game.” Plumley, “Ciconia’s Sus un’ fontayne,” 164.
first arc connects “fontaine” (and its suggestion of *En atendant souffrir m’estuet*) to “remirant” (and its explicit reference to the name of the song and its composer).

This connection of an inflection using a normal square-b to one using an unusual square-b recurs throughout the A section of the Ox 229 recension of *Sus une fontaine*, and is made explicit in Fig.VII.4 below.

**VII.5.5.2 — The Second Arc**

The second arc connects the quotations from *En remirant vo douce pourtraiture* to *En atendant souffrir m’estuet*, i.e., the text and music of “en remirant” (mm. 11-18) to the same from “en atendant” (mm. 51-54). It is in this arc that the textual idea of the A section becomes clear: a narrator hears singing in the distance so sweet that his whole being is transfixed while waiting (“atendant”) for relief. Like “remirant,” the middle syllable of “atendant” is inflected with a dotted square-b (h/8), the third of three such accidentals in *Sus une fontaine*.

The text of the thirty-six measures from “remirant” to “atendant” argues for seeing this arc as one unbroken passage, but the music and accidentals at “que mon cuer” (mm. 28-31) suggest a dividing point about a third of the way in. Starting measure 19, the narrator tells us that the singing he hears captures his “heart, body and mind” (“cuer cors et pensement”), and as he sings the word “cuer,” a long progression begins that resembles the progression at “fontaine” and is inflected by the second of the three dotted *b-quadrati*. 
“Cuer cors et pensement” is not a quotation from any known song of Filippotto’s, but “cuer” is a crucial word in Ciconia’s text, and its importance seems to be underscored by the unusual accidental g/7. The progression at “cuer,” moreover, is prepared by a progression over mm. 28-29 that sets the words “que mon” and is initiated by the normal square-b f/6; (see Fig.VII.4 below). It is noteworthy that f/6 inflects the same pitch (bmi) that is inflected by the dotted square-b d/4 twelve measures earlier. And as with “fontaine” and “remirant,” there appears to be a connection between a less significant word being inflected by a normal accidental, and a more significant word being inflected by an unusual accidental. Grammatically, “que” is the relative pronoun that introduces a dependent clause (i.e., the narrator hears singing so sweet that his heart, body and mind are captured), while “cuer” is its subject (i.e., he hears singing so sweet that his heart, body and mind are captured). It is plausible that Ciconia would highlight “cuer,” even though he is not quoting Filippotto.

Of the three songs by Filippotto that Ciconia does quote, the word “cuer” is found only in *En remirant vo douce pourtraiture*. It is possible, therefore, that “cuer” and g/7 initiate a backwards arc to “en remirant” and d/4. This arc, moreover, can only be perceived in retrospect, hence I refer to it as a “retrograde” arc. I will return to this idea after suggesting that a second, much longer, retrograde arc connects “en atendant” back to “fontaine.”
VII.5.5.3 — The Retrograde Arcs

Ciconia’s quotation of *En atendant souffrir m’estuet* differs from its sources in a variety of ways, each of which is significant. The signature flats of the original are not reproduced in Ox 229, and their absence distorts the quotation, which, in modern terms, sounds “minor” with them, but “major” without.\footnote{A single flat—ostensibly a signature—is signed in the Cantus of the ModA recension (see \textit{v}, NPT, 6); presumably it also represents the Bfa/Efa signatures of the Ct and T.} The absence of these flats is in contrast to Ciconia’s evident care to replicate the signature flats of his quotation from *En remirant vo douce pourtraiture*, which do preserve the character of the original song. Ciconia also alters the contratenor of the original after the fourth beat so that, rather than ascending to c, it descends a-G and serves as the tenor for a progression to G that does not occur in the original; (see Fig.VII.46 below). He then sustains all voices on this unison G for four beats (= two measures), again, in contrast to what occurs over the same span of time in the original source. Finally, he inflects the tenor’s f at beat 4 from fa to mi via the dotted square-b h/8, thereby underscoring this progression in a way that does not occur in any of the sources of Filippotto’s ballade.
This redesigned cadence to G serves as the musical full-stop for the A section of *Sus une fontaine*, and thus also for the end of the song. Despite the need for this cadence to separate the A and B sections, and also to end the song, this moment is an awkward place to stop, textually, given that verse 1 flows into verse 2 without any break in sense: “mon cuer, cors et pensement remanent pris *en atendant* || d’avoir merchi *de ma dolour*…”; (“my heart, body and mind remain captive *while waiting* || to receive mercy *from my grief*…”). Was Ciconia having a bit of fun here by inserting this two-measure pause as the text says “while waiting”?

I suggested earlier that the half measure of repose following “remirant” (measure 18) might be too brief for a full recognition of the song to occur. The two measures of rest following “atendant,” however, might well be enough time for the listener to recognize the quotation, name the tune, and identify its composer. And if the listener is quick, he might also remember that *En atendant souffrir m’estuet* is a song about a fountain and then recall the long progression on *fontaine* at the beginning of *Sus une fontaine*. At this moment, a second retrograde arc would form, stretching backwards from mm. 54-55 to mm. 1-10. It would be the longest arc so far, and like the first retrograde, possible only in retrospect. And it is only at the conclusion of the A section that the series of arcs connecting normal to unusual *b-quadrati* (*b/1* to *d/4*; *f/6* to *g/7*; *b/1* to *h/8*) can be seen.
VII.5.5.4 — The Conclusion of Verse 5

All three quotations from Filippotto occur in the first two verses: “en remirant” and “en atendant” in verse 1; “de ma dolour” in verse 2. In terms of the structure of the virelai, the first two quotations occur in the A section, the third in the B section. The B and A sections are then repeated (verses 3 and 4, respectively), but with new texts. Only in verse 5—the third and final repetition of the A section—are the original texts and music of En remirant and En atendant repeated. When verse 5 is over, the song is finished, and the listener is left waiting for a textual resolution that never comes.

Anne Stone describes this moment as “provocative”—which it certainly is—but does not further explore the issue of how a listener who knows Filippotto’s ballades and recognizes the quotations from them in Sus une fontaine is to respond to the unanswered question of “while waiting” once the song is over.112 With the help of the original sources of En atendant souffrir

112 “The second quotation, ‘en atendant,’ closes the A section of the virelai, and seems to comment upon its own position, waiting to continue the sentence interrupted by the cadence in bar 54. It also, of course provides the ending to the whole song, and as such it takes on a different, rather provocative, meaning.” Stone, “Singer at the Fountain,” 372. She goes on to discuss Ursula Günther’s proposal that the last verse should end the cadence to D in measure 67 (and therefore be textually, as well as musically complete: “en atendant || d’avoir merchi”), but dismisses it as undermining Ciconia’s ironic intentions: “This ambiguity seems to be intentional on the part of the composer”; ibid.
m’estuet, I wish to engage the question of what might come to the listener’s mind once verse 5 ends and the song is over.

Three possibilities suggest themselves. The first is someone who does not know Filippotto’s ballades, and who might simply leave wondering: “waiting … for what?” The second would be someone who has at least some familiarity with Filippotto, and who might recognize some or all of the quotations therein and leave thinking “en attendant || d’avoir merchi”—essentially the solution proposed by Ursula Günther.113 The third would be a listener who knows Filippotto’s ballades well, and at the conclusion of verse 5, would hear, not “en attendant || d’avoir merchi,” but “en attendant || soufrir; that is, the cadence to C/c/g that follows Ciconia’s quotation.

Fig.VII.47 below compares Ciconia’s setting of “en attendant” and Filippotto’s setting of “En attendant soufrir,” showing the accidentals used to inflect sou-frir in all three sources of the original ballade.

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For Günther’s proposal, see: “Zitate in französischen Liedsätzen der Ars Nova und Ars Subtilior,” Musica disciplina 24 (1972), 53-68 [62].

113 Günther proposes that the ending of Verse 5 (the enigmatic ending at mm.54-55 in Ciconia’s Sus une fontaine) should conclude instead cross the caesura and end at measure 67, i.e., “en attendant || d’avoir merchi”; see ibid.
If this third listener hears “en atendant soufrir” (i.e., “while waiting to suffer), rather than “en atendant d’avoir merchi” (“while waiting for mercy”), following the end of *Sus une fontaine*, then he might be hearing a long, microtonally inflected progression over *sou-frir*, as indicated by the *musica colorata* signs in both the Chantilly (*Ch*) and Reina (*Pr*) recensions. (I will discuss the *accidental* used in the Modena recension below.) Particularly noteworthy are the dots in the *musica colorata* sign of Reina. If the scribe of Reina intended them to indicate non-Pythagorean intonation, then they would lend weight to my assertion that the four dots within the *quadrati* of *d/4* (“re-*mi*-rant), *g/7* (“*cuer*”), and *h/8* (“*a-ten*-dant) in the Ox 229 recension of *Sus une fontaine* serve the same purpose. This in turn raises the question of whether non-Pythagorean intonation was part of the tradition in which Filippotto worked.

It is to this question that I now turn.

**VII.5.6 — Unusual Accidentals in the Sources of *Sus une fontaine***

There are indications of non-Pythagorean intonation in the accidentals of each of the three ballades from which Ciconia borrows text and music for *Sus une fontaine*. These indications are clearest in *Ch* and *Pr*, where *musica colorata* is used, but unusual accidentals are present in *ModA*, too. When collated with the accidentals of *Ch* and *Pr*, they suggest that non-Pythagorean intonation is indicated in *ModA*—if not also its exemplars. Fig.VII.48 below shows, at a glance, the disposition of unusual accidentals in the sources; images and details follow in the discussion below.

<table>
<thead>
<tr>
<th>Name of Ballade</th>
<th>Present in:</th>
<th>Unusual Accidental Used:</th>
<th>Present in one of the quotations?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ModA</td>
<td>Ch</td>
<td>Pr</td>
</tr>
<tr>
<td><em>En remirant</em></td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td><em>En atendant</em></td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td><em>De ma dolour</em></td>
<td>yes</td>
<td>yes</td>
<td>no</td>
</tr>
</tbody>
</table>
VII.5.6.1 — En remirant vo douce pourtraiture

The unusual accidentals that connect Sus une fontaine (g/7) to En remirant (a/1) occur in a lyric that in both songs begins “que mon cuer.” In Sus, this lyric is “que moun cuer, cors, et pensement”; in En remirant, it is “que mon cuer durer || Las, il ne puet.” Boldface above indicates the words inflected in Sus une fontaine and in all sources of En remirant, respectively. The double bar || represents the division between the clos ending of the A section and the beginning of the B section of En remirant. Fig.VII.49 below presents texts and translations of verses 1-2 of Sus une fontaine and 1-3 of En remirant with the related texts highlighted in red, and the textual concordance in boldface red.

<table>
<thead>
<tr>
<th>Fig.VII.49: Texts of the A-B Sections of Sus une fontaine and En remirant vo douce pourtraiture</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A</strong></td>
</tr>
<tr>
<td>1.5. Sus une fontaine en remirant ouy chanter si douchement que mon cuer cors et pensement remarent pris en atendant.</td>
</tr>
<tr>
<td><strong>A</strong></td>
</tr>
<tr>
<td>1. En remirant vo douche portraiture en laquele est tous doulz yimaginer,</td>
</tr>
<tr>
<td>2. M’a point amours d’une tres fort pointure d’ardant desir si que mon cuer durer</td>
</tr>
</tbody>
</table>

| **A** | **B** |
| 1.5. By a fountain while looking around I hear such sweet singing that my heart, body and mind remain captive while waiting | 2. to receive mercy from my grief, which strongly strikes me in my heart |
| **A** | **B** |
| 1. While gazing at your lovely portrait, in which one can fancy all that is beauty, | 3. alas! cannot endure, incomparable lady, if your kindness does not come to my aid: for your love, lady, I live, yearning. |

In the two examples following, the junction of mon cuer durer || las is shown in transcription next to images of the inflecting accidentals as they are signed in Ch and Pr.

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114 “The expression of the captivation of the narrator’s heart, body and mind recurs in many Machaut lyrics, while the lover’s torment due to his overwhelming desire is a theme so central to the fin’amors tradition that to cite antecedents would be superfluous.” Plumley, “Ciconia’s Sus un’fontayne,” 164.
Clearly visible in these examples are three of the four accidentals signed in the Ch and Pr recensions of *En remirant*: **a/1** and **c/2**, which inflect a vertical sonority in a progression (bmi/d/gmi–a/e/aa), and **d/3**, which re-establishes the bfa signature in the Ct and T that **c/2** cancels. The fourth accidental, **b/4**, I will discuss below; (see Fig.VII.56).

Like **Ch** and **Pr**, the **ModA** recension of *En remirant* also has four accidentals, but only one inflection (**a/1**) in common with the other two recensions. (In Figs.VII.52 and VII.53 below, the three inflections unique to **ModA** are identified with Roman numerals.)
Three types of accidental can be identified in the examples above: the normal square-b in Ch; a dotted musica colorata in Pr; and an unusual variety of sharp in ModA. For lack of a better name—and because its separate diagonal strokes have been replaced with a single, continuous back-and-forth stroke—I call this unusual sharp a “swung sharp.”

The “normal” sharp is also used in the ModA recension of En remirant to inflect the cadences at the clos ending (i.e., end of verse 2) and at the ballade’s conclusion; (see Fig.VII.53 below). I will return to these normal sharps below.

Unlike Pr and Ch, therefore, which use only a single variety of accidental sign in their recensions of En remirant, ModA uses two: the normal sharp and the swung sharp (see
Fig. VII.54.807 below). This raises the question of why the scribe signed two different kinds of sharp if—as has been our assumption—they are otherwise identical in significance?\footnote{The two different sharps are not mentioned in any edition of En remirant vo douce pourtraiture, including the critical notes to Greene, French Secular Music, PMFC xix, 183, or those of Stoessel’s transcription, “The Captive Scribe,” II:337–40.}

It is of course possible that the two kinds of sharp were present in the scribe’s exemplar, and that he faithfully copied them as he encountered them.\footnote{A single scribe was primarily responsible for the copying of fascicles II-IV of ModA, and only one other contemporary hand has been detected in them. His few additions were all textual; see Anne Stone, The Manuscript Modena, Biblioteca Estense, α.M.5.24: Commentary (Lucca: Lim Editrice, 2005), 41, and 41 n.35.} Yet the musical literacy and independent judgment of the scribe of ModA fascicles II-IV has been well documented,\footnote{“Scribe II-IV was strikingly musically literate. He read the music as he copied, as is evident from numerous small erasures and changes. The manuscript’s transmission of complex Ars subtilior-style notation is remarkably good, and also seems to be a product of the scribe’s competence rather than his careful copying from his exemplars”; ibid., 43.} as has his tendency to normalize his readings as he copied them.\footnote{“It seems … to have been a standard procedure of the scribe of Modena A to edit and to normalize notational devices as he copied pieces into the manuscript … . The evidence of other pieces copied in Modena A suggests … that it is well within the scope of that scribe’s activities to change eccentricities of notational usage in order to conform to what he perceives to be notational norms.” Stone, “Singer at the Fountain,” 382.} If these two signs were indeed equal in significance, then it is likely that this particular scribe would have inscribed the same type of accidental in all four places.

A second possibility is that the two signs mean different things. I am not suggesting that they do not both indicate what would be solmized on the recta Gamut as an ascending mi-fa inflection. I am instead suggesting that the two signs specify different degrees of intonation. In other words, that the normal sharp is equivalent to the square-b and indicates a Pythagorean minor semitone between bmi and cfa, and that the swung sharp indicates a smaller interval—perhaps not as small as Marchetto indicates in the text of Lucidarium, but nevertheless audibly smaller than the minor semitone. My argument is as follows.
Normal sharp i is followed almost immediately by swung sharp a/1. In fact, only three notes separate them, and the first sign would have been visible in the scribe’s field of vision as he wrote the second; (see Fig.VII.54 below):

![Fig.VII.54: End of A Section – Beginning of B Section; En remirant, mm.23-25; Source = ModA](image)

Although separated by a much greater distance, the same sequence repeats with accidentals ii and iii: the former sharp is normal; the latter is swung. Thus the scribe twice alternates the shape of his accidentals, signing i and a/1 just millimeters apart on stave 2, then ii on stave 4, and finally iii on stave 8. A glance at the manuscript (see Fig.VII.55 below) gives the impression that this sequence might be random.
Fig VII.55: f.34v of ModA showing the normal (i; ii) and swung (a/1; iii) sharps of *En remirant*
When the parts are put into score, however, it can clearly be seen (in Fig. VII.55 above) that the two swung sharps inflect a single, vertical sonority, and that their coincidence is not likely to be by chance.

I have already demonstrated that i and iii inflect nearly identical cadences at the ends of the A and B sections of the ballade (see Fig. VII.53 above), and I have also observed that neither cadence is inflected in Pr and Ch. Yet despite their absence from the latter two sources, it seems likely that these progressions would have been inflected by their singers, whether or not the cadential f was explicitly signed mi. In this respect, i and ii from the ModA recensio of En remirant are similar to the inflections in mm. 2, 22, 27, and 29 of Sus une fontaine, which have been explicitly signed in ModA, but are uninflected in Ox 229. While I cannot prove this, inflections i and iii suggest editorial intervention by the scribe of ModA to me.

The progression at las, on the other hand, and the accidentals that inflect it, represent a different set of circumstances. In particular, the swung sharps a/1 and iii in the ModA recension of En remirant are necessary inflections, and like d/4 and h/8 in Sus une fontaine, perhaps also authorial. I am not arguing here that the progression over las would not have been inflected if it were not signed. I am instead arguing that if an unusual interval were intended, it might well have required an unusual accidental sign so as to make the distinction clear, and it is in this light that I believe we ought to regard the two swung sharps a/1 and iii.

And while it is obvious from the transcription that a/1 and iii inflect the same vertical sonority, this fact is far from obvious when seeing the manuscript (Fig. VII.55) for the first time. One would either have to be looking for this circumstance, or discover it in the process of transcribing the music. If the latter, what one finds when arriving at this point is a progression
that is straight out of *Lucidarium*\(^{119}\) and that sets a single, monosyllabic word whose inflection—which I suggest is microtonal—sounds for the equivalent of six minims. Moreover, the word inflected—*las*—is an exclamation coming in the middle of: *que mon cuer durer* || *Las, il ne puet* ("that my heart || Alas! cannot endure"). So in addition to being the only such inflection in the song (which has an otherwise almost through-composed quality to it, and whose few imperfect-to-perfect progressions are almost innocuous by contrast),\(^{120}\) and coming in the first measure of the B section (where a progression typical of much older music was not common and probably unexpected), there may well be a rhetorical aspect to this inflection.

There is also the *musica colorata* in *Pr* with the four dots in its *quadratum* that inflects what in *ModA* is signed by the higher of the two swung sharps, *a/1*, and which suggests a direct link between the four dots and the microtonal significance of Marchetto’s *musica colorata*. While this is again short of proof, it does suggest a relationship that is more than coincidence.

And then there is *b/4*.

**VII.5.6.2 — The Inflection b/4 and the Refrain of *En remirant vo douce pourtraiture***

The inflection *b/4* occurs three measures into the refrain of *En remirant* ("pour vostre amor dame, vois languissant") and inflects *da*-me, a reference to the object of the narrator’s desire and the woman for whom he languishes. Of the three musical sources, *b/4* is signed in *Ch* and *Pr*, though not by the same accidental sign: in *Ch*, *b/4* is a normal square-*b*; in *Pr*, it is a dotted *musica colorata*. In *ModA*, *da*-me is uninflected. A collation of the music, and images from all three mss. are shown below in Fig.VII.56.

\(^{119}\) Luc. Ex.9a; see Herlinger, *Lucidarium*, 214–215.

\(^{120}\) In *En remirant* there are very brief imperfect-perfect progressions in the A section (mm.8, 11, and 13–14): the first two are phrygian (the bfa-a semitone via the signature flats in Ct or T), the third is a conventional sixth-to-octave progression (G/b/e-F/c/f) whose middle voice (i.e., *altizans*) is under bfa signature. These progressions are more evident in transcription than in performance, where they pass almost unnoticed.
What is most noteworthy about b/4 is that there is no compelling reason for it. While it is true that there is a prominent bfa in the Tenor of the previous measure, in a song with conflicting signatures, oblique fa-mi discords abound; (see Fig.VII.57 below). If we describe
the purpose of \( b/4 \) as making explicit this particular fa-mi situation, then we have to ask why none of the others were similarly made explicit, especially the two nearly vertical discords in mm. 6 and 15.

A less complicated explanation is that \( b/4 \) was signed to sonically highlight a particularly important word in the text: “dame.” Whether she was a real person or just a figment of the poet’s imagination, this woman is the object of the entire song, and her citation in the refrain is literally the most important word in the text. The dotted \textit{musica colorata} in \textit{Pr} that inflects \( b/4 \)—if its purpose is to signal \textit{diesis}—would seem to confirm this.

Even the normal square-b in \textit{Ch} points in this direction as well. The exemplar of \textit{En remirant} from which its recension in \textit{Ch} was copied may not have inflected \( b/4 \) with an unusual accidental, but the exemplar prior to it may have. Moreover, the fact remains that \( b/4 \) is unusual by circumstance, if not also by accidental: in essence, it inflects bmi under circumstances where b is already mi, and therefore unnecessary … unless its significance has to do with the size of the semitone inflected (i.e., the intonation) rather than the inflection itself.\textsuperscript{121}

As for the \textit{ModA} recension of \textit{En remirant}, it is only possible to say that scribe II-IV left the G/bmi sonority at measure 38 uninflected. This suggests that if there were an accidental there in his exemplar, it was normal and he left it out, since it must have seemed superfluous to him.

What is important to recognize at this juncture is that the swung sharps \( a/1 \) and iii, which inflect a single vertical sonority of musical and rhetorical importance, retain their shape, and are distinct from the normal sharps i and ii.

\textsuperscript{121} See the discussion, Chpt. VI.6.8, of \textit{p/16} in \textit{Ludowice / Servant regem / Rex regum} from F-Pn fn. fr. MS 571, in which bb is signed mi with a three-stroke square-b when, like \( b/4 \), b is already mi. The text, originally directed at the young King Philip V of France, concludes: \textit{iuste vivat et sancte igitur} (“therefore live justly and \textit{holy}.”)
VII.5.6.3 — *De ma dolour*

Of the three quotations from the ballades of Filippotto da Caserta that Ciconia wove into *Sus une fontaine*, the quotation from *De ma dolour* is the most problematic. Fig. VII.58 below presents images of the Ct (plus a transcription of all three voices) from both sources of *Sus une fontaine*. The transcriptions correspond to mm.73-76 in all editions of the song.

![Fig VII.58: Contratenors, mm.73-76, from the ModA and Ox 229 Recensions of *Sus une fontaine*](image)

The differences, which occur in mm.75-76, are not immediately obvious: in ModA, the note before the three minim rests is also a minim; in Ox 229, it is a perfect semibreve—colored arrows in the two transcriptions point out these differences. This, plus the difference in mensuration signs that follow the three rests—[2,2] then [2,3] in ModA versus [2,2] in Ox 229—result in a different reading of mm.75-76. In ModA, the last note of measure 75 is possibly in cross-relation to the Cantus. Given the text of Verse 2 (“de ma do-lour”), such a tonal clash may be fitting. But if Ciconia was paying homage to Filippotto in Verse 3 by addressing him as “noble flour,” then this cross-relation might be a problem.
In the Ox 229 reading, the cross-relation is avoided and the problematic c is moved to the following measure. Yet this creates problems as well, since a correct contrapuntal resolution would be to G/d/d, not G/c/d. In his edition of Sus une fontaine, Jason Stoessel emends this c to d, a solution which I have adopted in the NPT, albeit not without some reservation.\footnote{See n.121 above.} The Ox 229 recension may indeed be a better overall record of Ciconia’s intentions for Sus than ModA, but it is difficult to escape the sense that, at this moment, it too has problems.

Fig.VII.59 below shows the opening of De ma dolour from ModA and Ch, plus Ciconia’s quotation of same in Sus une fontaine from Ox 229. Enlargements of the accidental signs appear immediately to the right of the images from the Cantus of each source.

| Fig.VII.59: mm.1-7 of ModA & Ch Recensions of De ma dolour, mm.70-77 from Ox 229 |
|---|---|---|
| ModA | Ch | Ox 229 |

The accidental signs notwithstanding, the ModA and Ch recensions are identical. The Cantus and Tenor of the Ox 229 quotation also conform to the original (save for the first two notes of the T), but there are differences in the Ct. In addition to those discussed above between the ModA recension (with its cross-relation) and the Ox 229 recension (with its “cleaned-up” progression), a comparison of the Ct of Ox 229 to those of the sources in ModA and Ch shows yet another change: the fourth note from the end of the quotation—a black semibreve—in both
ModA and Ch has in Ox 229 been replaced by three minim rests. It is the red semibreve that follows it that forms the cross-relation with the Cantus, and which in Ox 229 has been moved to the next measure (and emended by Stoessel); see Fig.VII.60 below, in which these changes are indicated by colored brackets and arrows.123

![Fig.VII.60: Comparison of Ch (=ModA) recension of De ma dolour with Ox 229 quotation](image)

Ciconia’s changes to the Ct in mm.75-76 constitute a simplification of the original music: the problematic c has been moved to measure 76, and the note before it, which sounds above the cmi in the Cantus, has been replaced by rests. Assuming that Stoessel’s emendation to the Ct is correct—which is to assume the scribe of Ox 229 was correct in replacing the semibreve e with the three minim rests, but in error in signing c, rather than d in the following measure—the result is an uncomplicated progression to G/d/d at the beginning of measure 76.

Of the three songs quoted in Sus une fontaine, only De ma dolour has an accidental sign in the measures from which it is drawn. In the ModA recension, this accidental is a sharp; in Ch, it is a musica colorata; in Ox 229, it is a normal square-b. Given that Ciconia uses the dotted square-b to inflect key words in the quotations from En remirant (d/4) and En atendant (h/8), we might expect he would use a dotted square-b in the quotation from De ma dolour (a/10), especially when this inflection is already signed with musica colorata in one of the two sources. But he does not.

123 Note the conflicting signatures between T and Ct, and the potential for problems in mm.7–8.
The quotations from *En remirant* and *En atendant*, both of which appear in the A section of *Sus une fontaine*, are essential to Ciconia’s song: the first suggests the composer’s ironic intentions to the listener; the second confirms them. The A section, moreover, is both the first music the listener hears, and also the last. And as if to call special attention to the quoted texts, Ciconia creates a pair of inflections not present in the sources and uses dotted *b-quadrati* to underscore the middle syllable of the essential word in each: “re-*mi*-rant,” and “a-*ten*-dant.”

The third quotation does not follow this pattern. Ciconia inflects “do-*lour*” with a normal square-*b*, which suggests that he did not want to call the same kind of attention to it. An intent not to highlight this quotation also seems to be mirrored in the reworked progression to G across mm.75-76; the replacement of the semibreve e in the Ct with rests; and the elimination of the cross-relation between the Cantus (cmi) and the Ct (cfa) in measure 75. And while the conflict in sense between “dolour” and “noble flour” might account for the elimination of the cross-relation, the other changes suggest a more comprehensive reworking of the passage, much as Ciconia reworked the quotation from *En atendant*.

The changes to the latter were necessary in order to convert the opening measures of Filippotto’s ballade into the final cadence of *Sus une fontaine*, and while harder to qualify, I suspect that the changes to *De ma dolour* were likewise necessary to make the music fit into the new song. Perhaps Ciconia wanted the B section—sandwiched as it is between the two full statements of the A section (i.e., verses 1 and 5)—to be lower in profile than the surrounding music. If so, the signing of a normal—rather than an unusual—square-*b* in the *Ox 229* quotation might explain the discrepancy with the *musica colorata* in the *Ch* recension of *De ma dolour*.

It is of course always possible that by the time *Ch* was copied, *musica colorata* had lost the intonational significance that Marchetto created it to convey, and that despite their graphic
differences, *musica colorata* and square-b were identical in significance. But a pair of accidentals—a *musica colorata* immediately followed by square-b—later in the Ch recension of *De ma dolour* argue against this.

**VII.5.6.4 — b/5 and c/6 in the Ch Recension of *De ma dolour*; e/10, too**

In mm.38-39, the words *dont perdu ay* are inflected by a pair of accidentals in the Cantus of Ch that were originally signed as *musica colorata* (b/5) and square-b (c/6). At some later point, a second scribe—wielding a pen with a wider nib and writing in a more crude hand—overwrote both; see Fig.VII.61 below. This same scribe also overwrote a third sign, *e/10*, which I will discuss after examining his changes to b/5 and c/6.

The original b/5, a *musica colorata* written with a very fine nib and in a distinctly angular style, is mostly obscured. Only under considerable magnification can its diagonals and vertical strokes be seen beneath the superscribed lines of what is now a sharp: compare the image of b/5 on the left with the enlargement on the right in Fig.VII.61 below.
To an even greater extent, the original outlines of square-b c/6 have been nearly obliterated: it is now a hybrid sign with the vertical strokes of a square-b and the diagonals of a
sharp. Yet its intonational significance appears to be unchanged: it signaled a Pythagorean minor semitone when first inscribed, and so far as I am able to tell, still does. My remarks below therefore concern the conversion of \textit{b/5} from \textit{musica colorata} to sharp and the question of whether or not the two signs are equivalent.

There is consistent evidence in \textit{ModA} that the sharp is equivalent to the square-\textit{b}. This is based primarily on the near-total absence of square-\textit{b} in fascicles II-IV, and the implausibility that every sharp in \textit{ModA} signals a microtonal inflection. (But see also the discussion above in which I make the case that in \textit{En remirant}, it is the swung sharps that signal non-Pythagorean intonation.)

In \textit{Ch}, the sharp is almost non-existent, and the few instances I have found are all superscriptions of what were originally \textit{musicae coloratae}. On the face of it, this would suggest that in \textit{Ch} the sharp and \textit{musica colorata} are equivalent, a conclusion supported by the observation that \textit{b/5} and \textit{c/6} were different signs when they were first inscribed, and are still different signs after having been overwritten. Moreover, if this second scribe had understood the two signs to be equivalent, there was sufficient space above and below \textit{b/5} for the scribe to have turned it into a square-\textit{b}, which he did not do. Instead, he maintained the graphic distinction between them.

There is also the relation of these signs to the text they inflect: \textit{Mar vi le jour que vi doulz viaire dont per-(b/5)du ay la joiouse pasture} (“A sad day it was, when I saw the lovely visage, the joyful delight of which I have \textit{lost}”). One has only to play this passage at the keyboard to realize that the vertical sonority at \textit{per-du} is tonally unrelated to the music that precedes and follows it. How much more strident might it be were \textit{b/5} to signal a microtone? One can imagine the T and Ct also having problems at this moment: does \textit{i/7}, which is written a fourth higher than
the Fmi I believe it ultimately inflects in measure 39, also inflect the Ct’s G? And what about the Tenor’s Efa? The reader who plays this passage at the keyboard—or enlists a pair of friends to sing it—will face the same questions.

Perhaps significantly, b/5 is not to be found in the ModA recension of De ma dolour. If it was present in his exemplar, scribe II-IV of ModA removed it. So did Jason Stoessel in his 2002 edition of the Ch recension of De ma dolour—and not just b/5, but e/10 as well:

MS accidentals exp. at S 41.2 [b/5] and 58.4 [e/10]. The interval of an augmented 6th with the T in the latter seems contrapuntally inappropriate.”

Fig.VII.62 below illustrates the counterpoint at b/5 and e/10. Colored arrows identify the two sonorities in question; (note that e/10 has also been overwritten):

Clearly, the counterpoint is not the same. While both accidentals inflect the same sonority, b/5 transforms its stack (i.e., Efa/G/c) into something unrelated to the tonality of the song as a whole. To appreciate just how destabilizing it is, one need only listen to the progression across mm. 38–40, first without b/5, then with it. In the former, the resolution to C/G/c at measure 40.2 is both clear and audible in advance; (that is, D/Fmi-bmi is the penultimate sonority, C/G/c is its resolution, and the ear can anticipate this as

\[124\] Note the conflicting signatures between T and Ct, and the potential for problems in mm.7–8.
far back as measure 38.1). In the latter, all sense of a normal progression vanishes at b/5: the D/Fmi/bmi sonority in measure 39 does not sound like the penultimate to C/G/c, and the listener can perceive the progression and its resolution only in retrospect.

The inflection at e/10, on the other hand, is over quickly and is not nearly as disruptive: it does not occur in the context of a directed progression, and its c⁸ does not sound until the last minim of the perfection. At most, it injects a moment of non-tonal “zing” into the music before the established tonality returns and the music progresses to the final cadence at measure 60.

Given this, it is perhaps understandable that Stoessel would call e/10 “contrapuntally inappropriate,” since it is otherwise unaccounted for. But “inappropriate” does not begin to account for the effects of b/5, about which Stoessel says nothing, save for the cryptic note in his critical apparatus indicating its expungement.¹²⁵

What Stoessel fails to recognize is that both inflections are clearly intentional. I say this because, not only were they signed by the original scribe, they were re-signed by a second, later scribe. And while the latter converted the two musicae coloratae into sharps, if it was within his editorial powers to do that, then he might well have removed them if he thought they were incorrect. By re-signing them, he affirmed their fundamental correctness.

So if by “inappropriate,” Stoessel means that b/5 and e/10 are “wrong”—and I think this is exactly what he means—then I respectfully disagree.

Nevertheless, I would like to retain the notion of “inappropriate” for the time being, and keep it in mind while we look at the text.

¹²⁵ See my criticism above, pp.84–85 of Bent and Hallmark regarding the exclusion of c/2 and d/4 from their edition of Sus une fontaine, and the entombment of this fact in the depths of their critical apparatus.
Fig. VII.63 below presents the text and an English translation of *De ma dolour*.

The four accidental signs from the Cantus of the Ch recension (a/1; b/5; c/6; e/10) are inserted in superscript (and within parentheses) where they appear in the original text and as close to their English cognate as possible in the translation. Blue highlighting identifies the text at b/5 in verses 3, 6, and 9, and at e/10 in the refrain that follows each.

When the text and the musical analysis given above and are considered together, it becomes clear that in verses 3 and 6, b/5 upends the music at precisely the moment the narrator says the word *perdu*. Moreover, what the narrator loses grows more serious with each passing line: in verse 3, it is his delight in seeing her; in verse 6, it is his source of nourishment. By verse 9, his losses have brought him to the edge of ruin.
Is the conjunction, therefore, of b/5, the musical progression it derails, and the word “lost” simply a coincidence? It’s possible, of course, but I think the simplest explanation for b/5 is that it is a musical gloss—perhaps a slyly humorous one—on the increasingly unfortunate state of the narrator.

The situation at e/10, however, is not analogous. If la parfaite figure is perfect, then does not the signing of e/10 somehow detract from her perfection, even if only briefly? I think the answer is yes. And I believe, moreover, that this marring of her otherwise parfaite figure is both intentional and highly ironic.

So to return to the notion that b/5 and e/10 do things to the music they inflect that are “contrapuntally inappropriate,” I completely agree. I just happen to think that this was always the point.

**VII.6 — Chapter Summary**

In the end, the dotted signs gave up very few of their secrets.

* * * * *

The analyses of the polyphony in Padua C55/56 and of the Ox 229 recension of Sus une fontaine make a plausible case for the possibility that a microtone, rather than a semitone, was meant in virtually every signed inflection in the former, and in three of the five inflections in the latter. Moreover, the feature that most directly connects them is the presence of four dots in the quadrati of their respective accidental signs.

In the Processionales, it is the use of permutation that argues most strongly for the use of diesis in all five of these short works, as well as chroma in all but the second. The dots and the unique signs contribute to the picture that there is something unusual about these inflections, but
one might suspect microtonal use even without them, given the chromatic progressions that either came from *Lucidarium*, or perhaps served as one of its sources.

In the case of *Sus une fontaine*, the connection of the dots to the possibility of microtones is the conjunction of text, music, and inflection that highlights two of the quotations from Filippotto, plus the word “cuer.” It is the anticipation and recollection these inflections might trigger in the mind of the listener that suggest the dotted *b-quadrati* at *re-mi-rant*, *cuer*, and *a-ten-dant* were meant to signal microtonal inflections.

A second reason for seeing the dotted signs as having a special significance in *Sus une fontaine* is the phenomenon of “anomalous use,” which here involves the two pairs of normal and dotted *b-quadrati*: $c^\flat-c^\times (b/1-g/7)$; and $b^\flat-b^\times (f/6-d/4)$. There is not the same kind of connection between these pairs that we might like—it would be fortuitous if, for instance, the normal sign $f/6$ and the dotted sign $g/7$ inflected the same pitch (they inflect $b^\flat-c^\times$, instead)—the argument that in comparison to the normal signs, the dotted signs inflect words of special significance to the text nevertheless still stands. This is clear from the short arc connecting $f/6$ (*que*) to $g/7$ (*cuer*; viz. Fig. VII.46) where *que* is simply the demonstrative adjective, while *cuer* is its object and a word of great import to the song as a whole. Moreover, this is not only because it is connected to the exclamation *Las!* in the ModA recension of *En remirant* (*que mon cuer durer Las*), but also on account of the swung sharps therein that inflect *Las*, for which we have Prosdocimo’s word equating them to *musica colorata*.

* * * * *

What I did *not* find in the course of my research for Chapter IV was any written testimony equating the dots with microtonal inflections. For instance, four-dotted, filigreed signs are illustrated eleven times in the examples of the *Tonus dividitur*, but the text does not even
mention signs, much less indicate whether different signs—or different numbers of dots—should distinguish the *semitonus* (two-thirds tone) from the *semitonium* (one-third tone).

As if to further confuse the issue, the five examples notated on staff lines employ a variety of signs numbering five or more; (see Fig.VII.64.a-e below). These include the filigreed four-dotted square-b (a); a filigreed round-b (b); a hybrid sign that is part square-b, part sharp (c); falsa musica (d); and a sign that eludes identification (e). I note, however, that when the scribe refers to an accidental in the running text—which he does some seven times—he always does so by signing the filigreed, four-dotted square-b; (a).

I note also that there are curious signs in Pr as well, and one sign in Q15 that might be significant. Those in Pr (see f-g, below) have serifs attached to their vertical strokes, and at least one has four dots; it is not clear whether the other is dotted. The sign in Q15 may possibly have been dotted and filigreed when first signed, but now looks as if the ink has burned or faded, and has left behind mostly just shadows; (see h below):

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![Fig.VII.64: The Very Unusual Signs of the Tonus dividitur & their Possible Cognates in Pr and Q15](image)

* * * * *
I also found dotted *musicae coloratae* in what would otherwise seem to be a very unexpected source—the M recension of *Lucidarium*. Fig.VII.65.a shows the cantus, only, of *Luc*. Ex.3c from M, with a similar sign from Pr next to it (b).126

![Fig.VII.65: Dotted Signs in Two of the Sources of *Lucidarium*](image)

A dotted *musica colorata* similar to that in M is found in the Florence recension of *Lucidarium* (F; 15th c., Italy), where there are both *musicae coloratae* and *b-quadrati* with a single dot in the *quadratum*; (see c-d above). Perhaps as another way of signaling the same thing, the St.-Dié recension (D; mid- or late-15th c., Belgium? Italy?) sometimes uses a square-b with an “x” in the *quadratum* to signal *diesis*; (see e).127

And there are two more fifteenth century sources of *Lucidarium*—the partial source Fl (late 15th c., Italy) and Brussels (Br; late 15th century, Italy)—which both merit more study than it was possible to attempt here. Given that their signs also reflect a fifteenth-century understanding of *Lucidarium*, there are almost certainly more places where the signs in the practical and those in the theoretical sources correspond.

* * * * *

The question regarding dots that looked as if it would be the most difficult to answer, yet was at the same time the most urgent to ask—what do the different number of dots signify—

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126 One-dotted signs are not common, save for those in Q15, but of the eight one-dotted signs in Pr, there are three (including 81r.5a) in which the incise is signed in or near the top-left corner of the *quadratum*.
127 It is in fact because of St.-Dié that I use a superscript “x” to distinguish *diesis* in my examples and edition of the works herein.
proved the most intractable. A repeat of Prospectus II below shows what would be data sets that for the most part do not match: Pr and ModA use all four “flavors” of the dotted sign, while Tc and Ox 229 use three (but not the same three). If Pr were to be removed—almost all of its signs are *musicae coloratae*, and it could have been discussed in Chapter II, not IV—the totals would change dramatically, and with them, the whole complexion of the phenomenon. With Pr included, the four-dotted signs are more than twice as numerous as any of the others; take Pr away, however, and the total number of these signs would drop to 195—still the most numerous, but much closer in total to the two- and three-dotted signs.

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<th>Dates of mss.</th>
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To sum up, the sheer number of songs, motets, etc., make the task of doing a thorough analysis of these signs a large and daunting project, and it was in reference to this realization that I noted at the head of this conclusion that the dots had not yet given up their secrets. A more detailed exploration of them has to wait for another opportunity.

* * * * *

But when that time comes, a good place to restart the quest would be Q15, and in particular, Ciconia’s settings of music for the ordinary of the Mass: of the five that are unquestionably by Ciconia (nos. 1-5 in Fig.VII.23), all are from the earliest stage of the
manuscript, and only the first combines different numbers of dots (though no. 5 employs undotted signs).

Ciconia was born and educated in Liège—a locale where the practice of enharmonic chant has been documented in the thirteenth century,\textsuperscript{128} and may well have endured into the late fourteenth century, when Ciconia was a choirboy. And just as Ciconia relocated to Padua in 1401—working for the Cathedral of Padua as Marchetto had a century before him—dotted signs seem to have had a resurgence.

This may all be just a coincidence, but there may well be more secrets in Q15 to discover: as the sign in Fig.VII.64.h above and its possible cognates from Pr and the \textit{Tonus dividitur} suggest, Q15 might be one source to have employed the third-tone. That all but eight of its two-hundred twenty-two dotted accidental signs have either one or two dots might suggest that two sizes of \textit{diesis} are indicated.

It might of course be impossible to determine this, but it would hardly be a waste of time to become more acquainted with the music in this source, which stands at the boundary of late medieval and early Renaissance music, and may present a picture of the sonic outlines of this time that is more detailed and more diverse than heretofore suspected.

\* \* \* \* \*

\textsuperscript{128} See the discussion of the Stavelot Missal in: Ferreira, “Music at Cluny” 127 n. 55.
Chapter Eight

Conclusion

Between Marchetto and Prosdocimo, there is enough written testimony to conclude that microtonal inflections were used in medieval polyphony. There is graphic evidence, moreover, that confirms this: \textit{M} and \textit{musica colorata}; \textit{M} and \textit{falsa musica} (the icon); \textbf{Case 54.1} and \textit{falsa musica}; and though perhaps not the clearest source, \textbf{Berkeley 744} and dotted signs.

But it is one thing to cite Marchetto as guarantor that \textit{musica colorata} signals \texttt{diesis} \texttt{[ \frac{3}{2} ]}, and something entirely different to prove it. Anyone wishing to demonstrate that \textit{musica colorata} is just another form of the square-\texttt{b} need look no further than the famous rondeau \textit{Fumeux fume par fumee}. If there were ever a likely candidate for the use of microtonal inflections, a song about smoke—something that curls and twists and wraps around itself in unpredictable ways—would be close to ideal.

And indeed, there are places in \textit{Fumeux fume} where the signs do seem to express the random nature of smoke, such as the \texttt{C\#\#/E\#/G\#} sonority at m.28, where the normally intoned \texttt{E\#} against \texttt{C\#} and \texttt{G\#} would form a minor triad that progresses by microtone in the highest-sounding voice from \texttt{G\#} to \texttt{.a.}, but by the minor semitone from \texttt{E\#} to \texttt{.F.} in the middle voice.
Equally unpredictable is the sonority at m.30, with GG in the lowest-sounding voice, B\textsuperscript{♯} in the middle, and E\textsuperscript{♭} in the highest.

So far so good, perhaps. But the sonority in m.30, while no less radical that the C\textsuperscript{♯}-FF interval between the lowest-sounding voice across mm.28-29, has one voice signed with \textit{musica colorata} and the other—a fourth lower—signed with square-b. Does Marchetto’s \textit{musica colorata} sign still mean what Marchetto says it does here? Or is it just a variant of the square-b?

It is an impossible question to answer, of course, but before we accept the latter, more familiar solution, there may be some worth in asking what \textit{Fumeux fume par fumee} might sound like if tuned according to the signs in Ch? Is there a logic to these inflections that we have yet to hear?
The problem of finding singers who can sing microtonal intervals notwithstanding, we will not know the answer to this question until we explore it. Given the number of these inflections, and the care taken by the scribes to notate them, it may well be a worthy project.

Where do we go from here, then? A first step would be to conduct a thorough search of the MSS sources, the surface of which this project has only barely been able to scratch. It is laborious work and there are considerable difficulties inherent in trying to uniquely identify each and every sign, but it will not be possible to know the full extent of this phenomenon until we have a more complete inventory of it.

A second, concurrent step would be to develop a taxonomy with which to name each of the unusual signs. Lucy Cross, in her investigation of the Einsiedeln recension of the *Lucidarum* reports finding unusual signs that she illustrates thus: \( \text{\textbullet} \) and \( \text{\textbullet} \).\(^1\) We currently have no names for signs such as these, and no way even to describe them.

A third project would be to search for the origins of the sharp. David Hiley, in his New Grove article on accidental signs, states that the sharp and the square-b are both found in thirteenth-century manuscripts, and that they are equal in significance. Karol Berger, on the other hand states that Marchetto’s *musica colorata* sign was the basis for the sharp,\(^2\) and indeed, the two signs do share the same disposition of vertical strokes: \( \underline{\text{\textbullet\textbullet\textbullet\textbullet}} \) and \( \underline{\text{\textbullet\textbullet\textbullet\textbullet}} \). According to Marchetto, this is the crucial difference between *falsa musica* (i.e., a square-b with a bisected *quadratum*) and *musica colorata*. Berger hints that the early sharp shared the same inflectional significance as *musica colorata*, but stops short of explicitly saying so.

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\(^1\) Einsiedeln, Benediktinerkloster, 638, ff.1r-44r. Siglum E in Herlinger’s critical edition.
\(^2\) The division of the whole tone into the ‘diesis’ and the ‘chromatic’ semitone … required the introduction of a new sign. This new sign, called *falsa musica*, reversed the stems of the regular square b so that the one on the left went downwards and the one on the right upwards: \( \underline{\text{\textbullet\textbullet\textbullet\textbullet}} \). (Eventually, it became, of course, our \( \# \).) *Musica ficta: Theories of Accidental Inflections in Vocal Polyphony from Marchetto da Padova to Gioseffo Zarlino* (Cambridge: Cambridge University Press, 1987) 22.
Nevertheless, he may be right: evidence that the sharp was understood to inflect a microtone in the early fifteenth century comes from no less respectable a source than Prosdocimo de’ Beldemandis. In his *Musica speculativa* Prosdocimo illustrates two signs: the sharp and an otherwise unnamed sign I call the “swung sharp” on account of its looping diagonal. According to Prosdocimo, both signal what Marchetto designed *musica colorata* to indicate.

Prosdocimo minces no words in expressing how mistaken are those musicians who use these signs:

… not understanding this fact, but acting arbitrarily and without reason, set down in place of square-b a cross like this, ![cross sign](image), and some of the more modern ones a sign like this, ![modern sign](image), also proceeding arbitrarily and without reason—the greater part of these, and especially the Italians, following the false teaching of the Paduan Marchettus.³

But that he mentions this subject at all, and that he does so in 1425, more than one hundred years after *Lucidarium* was written, indicates that Marchetto’s theory was still understood as explaining a real, and very practical phenomenon.

What Prosdocimo confirms for us, therefore, is that the exclamation “Las!” from the ballade *En remirant*, one of the three songs of Filippotto da Caserta that Ciconia quotes in *Sus une fontaine*, was meant to be microtonal. The figure below shows the two swung sharps that inflect the word “Alas!”

![Fig.VIII.3: The Microtonal Inflection of “las” (Alas!) in the ModA recension of En remirant](image)

How much more evidence do we need in order to further explore this phenomenon?
Bibliography


Paléographie musicale: Les Principaux Manuscrits du chant grégorien, ambrosien, mozarabe, gallican. Solesmes, 1889–.


