

CORPVS MENSVRABILIS MVSICAE

106

GASPAR VAN WEERBEKE

COLLECTED WORKS

Edited by

GERHARD CROLL†

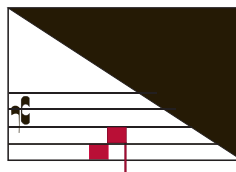
ERIC F. FIEDLER

ANDREA LINDMAYR-BRANDL

AGNESE PAVANELLO

PAUL KOLB

V. Settings of Liturgical Texts, Songs,
and Instrumental Works



AMERICAN INSTITUTE OF MUSICOLOGY

CORPUS MENSURABILIS MUSICAE

PAUL L. RANZINI

General Editor

GASPAR VAN WEERBEKE

COLLECTED WORKS

Edited by

GERHARD CROLL†

ERIC F. FIEDLER

ANDREA LINDMAYR-BRANDL

AGNESE PAVANELLO

PAUL KOLB

VOLUME 106

AMERICAN INSTITUTE OF MUSICOLOGY

ARMEN CARAPETYAN†

Founding Director

CORPVS MENSVRABILIS MVSICAE

106

GASPAR VAN WEERBEKE
COLLECTED WORKS

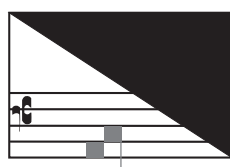
Edited by

GERHARD CROLL†
ERIC F. FIEDLER
ANDREA LINDMAYR-BRANDL
AGNESE PAVANELLO
PAUL KOLB

V. Settings of Liturgical Texts, Songs,
and Instrumental Works

Edited by

PAUL KOLB and AGNESE PAVANELLO
in collaboration with
Andrea Lindmayr-Brandl



AMERICAN INSTITUTE OF MUSICOLOGY

AMERICAN INSTITUTE OF MUSICOLOGY

The American Institute of Musicology publishes seven series of critical editions, scholarly studies, and reference works, as well as a journal all dedicated to the study of the music and culture of the Medieval, Renaissance, and early Baroque eras. The publications of the Institute are used by scholars and performers alike and constitute a major core collection of early music and theoretical writings on music.

Musica Disciplina (MD)
Corpus Mensurabilis Musicae (CMM)
Corpus of Early Keyboard Music (CEKM)
Musicological Studies and Documents (MSD)
Renaissance Manuscript Studies (RMS)
Corpus Scriptorum de Musica (CSM)
Miscellanea (MISC)

For information on establishing a standing order to any of our series, or for editorial guidelines on submitting proposals, please contact:

American Institute of Musicology,
Verlag Corpusmusicae GmbH
800 736-0070 (U.S. book orders)
608 836-9000 (phone)
608 831-8200 (fax)
<http://www.corpusmusicae.com>
orders@corpusmusicae.com
info@corpusmusicae.com

©2020 by American Institute of Musicology, Verlag Corpusmusicae GmbH. All rights reserved. No part of this book may be reproduced or transmitted in any form by any electronic or mechanical means (including photocopying, recording, or information storage and retrieval) without permission in writing from the publisher.

The purchase of this edition does not convey the right to perform any part of it in public, nor to make a recording of any part of it for any purpose. Such permission must be obtained in advance from the publisher.

The American Institute of Musicology is pleased to support scholars and performers in their use of its material for study or performance. Subscribers to CMM or CEKM, as well as patrons of subscribing institutions, are invited to apply for information about our "Copyright Sharing Policy."

ISBN-13 978-1-59551-544-5

Printed in the United States of America. ©The paper used in this publication meets the minimum requirements of the American National Standard for Information Sciences – Permanence of Paper for Printed Library Materials, ANSI Z39.48-1992.

Contents

GENERAL PREFACE	IX
Editorial Principles	IX
On This Volume	X
ACKNOWLEDGEMENTS	XI
LIST OF ABBREVIATIONS	XII
BIBLIOGRAPHICAL REFERENCES	XIII
INTRODUCTION	XXIII
Settings of Liturgical Texts	XXIII
Songs and Instrumental Works	XXIII
Appendices	XXVII
TABLE OF SOURCES	XXIX
Manuscripts	XXIX
Prints	XXXIII
Intabulations	XXXIV
CRITICAL COMMENTARY	XXXV
SETTINGS OF LITURGICAL TEXTS	
1. <i>Lamentatio Ieremiae prophetae</i>	3
2. <i>Magnificat octavi toni</i>	39
SONGS AND INSTRUMENTAL WORKS: AUTHORSHIP LARGELY UNCONTESTED	
3. <i>Bon temps/Adieu mes amours</i>	57
4. <i>Que fait le cocu au bois</i>	59
5. <i>Sans regretz</i>	62
SONGS AND INSTRUMENTAL WORKS: AUTHORSHIP CONTESTED	
6. <i>La stangetta</i>	67
7. <i>O Venus bant</i>	70
8. <i>Vray dieu quel payne m'esse</i>	72
APPENDIX A: INTABULATIONS	
A1. <i>La stangetta</i> Spinacino	77
A2. <i>La stangetta</i> Neusidler	79
A3. <i>O Venus bant</i> Spinacino	81
A4. <i>Vray dieu quel</i>	83

APPENDIX B: OPUS DUBIUM

B1. *J'ay pris amours/De tous biens plaine* 87
B2. *J'ay pris amours* (intabulation) 91

APPENDIX C: RELATED WORK

C1. *Ce n'est pas sans* 95

General Preface

The purpose of the Gaspar van Weerbeke Edition is to make accessible the complete music transmitted under the name of Gaspar van Weerbeke. The complete edition consists of five volumes arranged according to genre: masses and mass movements, motet cycles, motets, settings of liturgical texts (Lamentations and Magnificat), songs, and instrumental works. Works of uncertain authorship (either anonymous or with conflicting attributions) are included in the edition and labeled as such. All extant sources of Weerbeke's music have been considered. The critical appraisal of the sources is based on the complete collection of variants for each piece, helping to determine the relationship of the readings in each source. Alongside additional musical and historical considerations, this allowed the editors to establish a principal source as the basis for the edition. Specific editorial decisions are explained in the critical commentary.

Editorial Principles

The layout of the critical commentary of the Gaspar van Weerbeke Edition closely follows that of the *New Josquin Edition*. It consists of different sections including an evaluation of the extant sources, identification of any *cantus prius facti*, the verbal texts with English translations, lists of variants in the sources, modern editions, and related settings. Due to the great number of unica and the paucity of conflicting attributions in the transmission of Weerbeke's works, comments on authorship are provided only when there is some reason to question an attribution to Weerbeke.

In the Table of Sources, each source is supplied with a short siglum, which is referenced in the commentary. In the critical commentary, a complete list of variants and readings from the sources under consideration has been subdivided into special categories: designation of voices, clefs, key signatures, mensuration and proportion signs, musical symbols (*signa congruentiae*, fermatas, and repetition signs), variants in pitch and rhythm (including errors), coloration, ligatures, accidentals, and text placement. These categories are specified only where required. All entries refer to the modern critical edition and are ordered according to the measure number, number of the relevant signs within the measure (including both notes and rests of any length, but excluding notes continuing from the previous measure), voice, source, and variant (with commentary if necessary). For instance, the line

10¹⁻² B Mi: Sb/p

indicates that, in place of the first two signs in measure 10 in the bass (for example, a semibreve and a semibreve rest), the relevant source has a dotted semibreve on the same pitch. Pitches are given according to the so-called Helmholtz system, whereby middle C is labeled as *c'* and the octave above and below *c''* and *c*, respectively.

The transcription of each composition starts with an incipit giving original clefs and key signatures as given in the principal source. Voice names are given standard abbreviations (S, A, T, and B); when sources give specific names, these are mentioned in the critical commentary. The original mensuration signs are printed above the modern time signatures at the beginning of each piece or section as well as at any changes of mensuration. The range of each voice is given following the modern time signature.

Note values have been transferred such that a semibreve in the original notation is given as a half note in the edition. The final notes are usually rendered accordingly as breves, with the implication of indeterminate duration. No attempt has been made to visualize the difference between the mensuration signs **C** and **Ꝣ** or **O** and **⓪**. Since they are not consistently given in the sources and "cut" signs may denote a variety of meanings, the modern time signature does not attempt to distinguish between them. Barlines are given separately for each voice as in modern vocal scores. When a note extends over two or more measures, one or two small ticks outside the staff are used instead of the full barline. When this happens in the first measure of a new system, a stemless note in parentheses is provided to indicate the continuing pitch.

Ligatures in the principal source are indicated by horizontal square brackets. Ligatures in concordant sources are indicated in the edition by dotted horizontal square brackets only when they might affect the setting of specific syllables in the text. The use of color in the principal source is marked by horizontal open brackets.

Accidentals occurring in the principal source are placed before the note and are valid until the end of the bar. Editorial accidentals are indicated above the note and in a smaller font. When accidentals are found in any of the additional sources, these are usually included in the edition as editorial accidentals. When an inflection of the notated pitch is considered optional, editorial accidentals are suggested in parentheses.

The texts for all of the compositions have been standardized. The same spelling has been given in all of the voices, even if conflicting in single voices within a source, and abbreviated words have been given in full. Capital and lower-case letters have been used following modern convention. In the spelling of Latin words, the textual ligatures *ae* and *oe* have generally been avoided. Peculiarities in the spelling of the vernacular words have been preserved. Significant textual variants are listed in the critical commentary.

Text underlay follows the phrase setting of the principal source. Repeated or added words that are not found in the principal source are printed in italics; differences in phrase setting between the edition and the sources are mentioned in the critical commentary. Because scribes and printers of early music rarely intended their text underlay to be the definitive realization of the text, the underlay given in the edition should be viewed more as a performance suggestion than as the prescriptive solution. The editors' suggestions are based on a thorough critical examination of the sources and on the structure and style of the compositions, as well as on the rules given in some sixteenth-century treatises. But even when following sources with clear text underlay, there remain multiple acceptable performance realizations.

On this Volume

For the Lamentations and the Magnificat, capitalization and punctuation have been standardized. For the Lamentations, the spelling has retained some peculiarities of the source. For the syllable division of the Lamentations, that of the Solesmes chant books, also mostly followed in the *Monumenta Monodica Medii Aevi*, has been chosen as a general reference, with individual adjustments in accordance with the *Nocturnale Romanum*.

Cases of notational ambiguity (for example concerning alteration) are indicated in the Critical Notes. Altered notes are given at their realized value. When a black-full semibreve is followed by a black-full minim or a black-full breve is followed by a black-full semibreve, these are realized not in sesquialtera but as a dotted figure. All instances of coloration are indicated indiscriminately.

The critical commentary for the songs and instrumental works is supplemented with sections on authorship. For the two songs with reconstructed bass parts, there is an additional section on the reconstruction.

In this volume, the edition, commentary, and critical notes for the Lamentations were completed by Agnese Pavanello. The editions, commentaries, and critical notes for the Magnificat and all of the song and instrumental works (including the appendices) were completed by Paul Kolb. His work was facilitated in part by Pavanello's earlier transcriptions. The Introduction was written by Kolb, with the exception of the paragraph on the Lamentations, which was written by Pavanello. The Bibliographical References and Table of Sources were both compiled by Kolb. Andrea Lindmayr-Brandl proofread all of the editions and critical notes and provided helpful comments for the Introduction and commentaries. Corrigenda will be posted as necessary on the website of the Gaspar van Weerbeke Project, <<http://www.gaspar-van-weerbeke.sbg.ac.at/>>.

Bibliographical References

Agricola, *Collected Works*

Alexander Agricola: *Collected Works*, V. Edited by Edward R. Lerner. *Corpus Mensurabilis Musicae* 22/V. American Institute of Musicology, 1970.

Akarepi, *Chansons de Regretz*

Ekaterini Akarepi. "Chansons de Regretz in the Late Fifteenth and Early Sixteenth Centuries." PhD diss., University of Buffalo, State University of New York, 2009.

Alden, *Songs, Scribes, and Society*

Jane Alden. *Songs, Scribes, and Society: The History and Reception of the Loire Valley Chansonniers*. Oxford: Oxford University Press, 2011.

Atlas, *Aragonese Court*

Allan Atlas. *Music at the Aragonese Court of Naples*. Cambridge: Cambridge University Press, 1985.

Atlas, *Cappella Giulia Chansonnier*

Allan Atlas. *The Cappella Giulia Chansonnier (Rome, Biblioteca Apostolica Vaticana, C. G. XIII. 27)*. Brooklyn: Institute of Mediaeval Music, 1975.

Baker, *Segovia*

Norma Klein Baker. "An Unnumbered Manuscript of Polyphony in the Archives of the Cathedral of Segovia: Its Provenance and History." PhD diss., University of Maryland, 1978.

Bernstein, *Parisian Chanson*

Lawrence F. Bernstein. "Notes on the Origin of the Parisian Chanson." *The Journal of Musicology* 1 (1982): 275–326.

Biemans et al., *Het handschrift-Borgloon*

Het handschrift-Borgloon: Hs. Amsterdam, Universiteitsbibliotheek (UvA), I A 24 l, m, n. Edited by Jos Biemans, Hans Kienhorst, Willem Kuiper, and Rob Resoort. Hilversum: Verloren, 2000.

Blackburn, *Sign of Petrucci's Editor*

Bonnie J. Blackburn. "The Sign of Petrucci's Editor." In *Venezia 1501: Petrucci e la stampa musicale, Atti del Convegno Internazionale Venezia 10–13 Ottobre 2001*. Edited by Giulio Cattin and Patrizia Dalla Vecchia, pp. 415–29. Venice: Edizioni Fondazione Levi, 2005.

Bonda, *De meerstemmige Nederlandse liederen*

Jan Willem Bonda. *De meerstemmige Nederlandse liederen van de vijftiende en zestiende eeuw*. Hilversum: Verloren, 1997.

Boorman, *Petrucci*

Stanley Boorman. *Ottaviano Petrucci. A Catalogue Raisonné*. Oxford: Oxford University Press, 2006.

Introduction

Settings of Liturgical Texts

A majority of Gaspar van Weerbeke's surviving music, including the masses and motet cycles, was meant for liturgical performance. But outside of the masses, a relatively small portion of his compositions presents liturgical texts to be performed in place of the corresponding chant. This volume includes the composer's two main contributions to this category, the *Lamentatio Ieremiae prophetae* and the *Magnificat octavi toni*.¹

Both of these works survive in only one source. The *Magnificat* is found uniquely in Vatican City, Biblioteca Apostolica Vaticana, MS Cappella Sistina 15 (Va²), in which it was copied ca. 1495 as the thirteenth of fourteen settings organized by tone.² All of these are complete polyphonic settings beginning with an intonation notated in the superius. As part of the coherent papal chapel repertory of non-*alternatim* settings, it probably dates from Weerbeke's first Roman period, 1481–89. Weerbeke's setting incorporates a great deal of textural and rhythmic variety, moving swiftly between dense imitative polyphony, thin florid counterpoint, and sustained homophony.

Petrucchi's *Lamentationum liber secundus* (Pe⁵) is the only surviving source of Weerbeke's Lamentations.³ It is the second of two books dedicated exclusively to this genre and also contains settings by Bartolomeo Tromboncino and Erasmus Lapidica. Due to the lack of concordances or other documents, there are no hints to establish where and when Weerbeke may have composed his Lamentations. At a minimum, Petrucci's print provides a *terminus ante quem* for the composition as 1506. Despite its unknown date and place of origin, Weerbeke's composition is one of the earlier surviving polyphonic settings of the Roman lamentation chant. The chant is presented mostly in the upper voice and at times in the tenor, and it clearly informs the structure of the composition. In full, four-voice texture throughout, it is characterized by prevalent homophonic text declamation and by an alternation of lower and higher voicing from one reading to the next.

Songs and Instrumental Works

Weerbeke has long been understood primarily as a composer of sacred music, a repertoire closely related to his professional career. The six songs and instrumental works which have been connected to him are harder to place within an historical or compositional context. The security of the attributions is weakened by conflicting attributions for three of the songs and by potential confusion with Jean Japart in some further cases.⁴ This in turn has created an aura of uncertainty for those songs which might otherwise have been considered secure. Indeed, the possibility that Weerbeke *only* composed sacred music continues to be raised.⁵

1. One further instance is the Introit *Salve sancta parens*, edited in Weerbeke, *Collected Works*, vol. IV, 18–19.

2. Sherr, *The Papal Chapel*, esp. 209.

3. See the full source description in Boorman, *Petrucchi*, 626–30, and the facsimile edition, Petrucci, *Lamentationum*.

4. These two issues were first raised in Croll, *Das Motettenwerk Gaspars van Weerbeke*, 14, n3, and Croll, *Gaspar van Weerbeke: An Outline*, 81. The second has been taken up more recently in greater detail in Fallows, *Gaspar and Japart*.

5. See e.g. Fallows, *Gaspar and Japart*, 243.

Table of Sources

For links to full source descriptions, bibliographies, and inventories via the *Digital Image Archive for Medieval Music* as well as additional available online facsimile images, consult the website of the Gaspar van Weerbeke Project, <<http://www.gaspar-van-weerbeke.sbg.ac.at/>>.

Manuscripts¹

- Au** AugsS Mus. 25
Augsburg, Staats- und Stadtbibliothek, MS 4° Mus. 25
Choirbook excerpt (280×225 mm), 14 paper folios
Contents: 8 motets, 1 French song, 2 German songs, 9 textless songs
Ca. 1500; probably copied in southern Germany
fol. 7' *Auxilium praesta nam [J'ay pris amours]* anonymous
- Bo¹** BolC Q16
Bologna, Civico Museo Bibliografico Musicale, MS Q16
Choirbook (210×140 mm), 152 paper folios
Contents: 1 mass, 5 motets, 87 French songs, 30 Italian songs, 8 Spanish songs
First section completed 1487, second section 1490–1510; copied in Rome, Naples, or Bologna
fols. 82'–83 *Ce n'est pas sans [Related to *La stangetta*]* anonymous
- Bo²** BolC Q17
Bologna, Civico Museo Bibliografico Musicale, MS Q17
Choirbook (115×190 mm), 76 parchment folios
Contents: 1 Sanctus, 5 motets, 52 French songs, 1 Flemish song, 1 Italian song, 1 Spanish song, 1 macaronic song, 1 instrumental piece with Latin incipit, 8 textless pieces
After 1497; probably copied in or near Florence
fols. 71'–72 *Vray dieu* anonymous

1. Full library signatures are preceded by the sigla given in the *CENSUS-Catalogue*. Measurements, numbering, and summary of contents are adapted after those from the *CENSUS-Catalogue*. For more on dating and provenance, see the citations given in the Introduction.

Critical Commentary

1. Lamentatio Ieremiae prophetae

Unique Source

Pe⁵ [no. 2]/fols. E3'–F3; text in all voices; Gaspar (copy GB-Lbl, K.1.d.6)

Evaluation of the Source

Pe⁵ is the only surviving source of Weerbeke's Lamentations. In the Venetian print there are no specific rubrics for the single *lectiones*, but they can nevertheless be deduced from the text transmission (see under Text sources), the *mise en page* (especially from the initials in Superius), and changes of key and key signatures. The print contains some errors, which have been corrected in the edition.

Cantus prius factus

Weerbeke's Lamentations are based on the *tonus lamentationum* of the Roman use (*Liber Usualis*, 631–33). A few examples from the Late Middle Ages can be seen on the *Cantus Database* under the Cantus ID 850096.

Text

The Lamentations of Jeremiah are sung as part of the Divine Office on Maundy Thursday (*in coena Domini*), Good Friday (*Feria VI in parasceve*), and Holy Saturday (*Sabato sancto*). It is distributed among the three readings of the first nocturn at Matins on each day, which sums up to a total of nine readings. In late fifteenth-century breviaries, there are many variants in the distribution of the lamentation verses among the readings. Normally the phrase "Jerusalem, Jerusalem, convertere ad dominum deum tuum" concludes each reading, which may include a variable number of verses.

The text set to polyphony by Weerbeke covers portions of lamentations (each verse introduced by a Greek letter) that are usual sung in the first nocturn on Maundy Thursday and Holy Saturday. In the first section, the recitation of the refrain "Jerusalem, Jerusalem..." after *Beth* would suggest that the verses *Deleth* and *He* were part of the second reading and those following *Vau* and *Zay* part of the third reading. However, in breviaries *ad usum romanum*, *Deleth* is usually included in the first reading of the first nocturn of Maundy Thursday, while the text of *Vau* ("Et egressus") and *Zay* ("Recordata") commonly belongs to the second reading (*He* is to be found either in the first or in the second lesson). Without a source in which the distribution of the verses between the readings corresponds to the version set by Weerbeke, I suggest a distribution of the readings in line with what is documented by the consulted breviaries and thus consider "Jerusalem, Jerusalem" as the conclusion of each reading. However, it cannot be excluded that the distribution was originally different and that Weerbeke's version concerned only the first two lessons of Maundy Thursday (corresponding to the initials *A* and *V* in **Pe**⁵). In fact, the refrain "Jerusalem, Jerusalem" can sometimes also be found during the first lesson and not just at the end (see, for instance, Biblioteca Trivulziana, *Breviarium Fratrum Heremitarum*, Ms 394, fol. 157). In addition, for the verse beginning *He* Weerbeke set just the second part of the biblical text relating to this letter. In Petrucci's print "Novi diluculo multa" (in the first reading on Holy Saturday) is preceded by *Beth* instead of the usual *Heth*; this is corrected in the edition.

1. Lamentatio Ieremiae prophetae

[In coena domini. Primo nocturno]

[Lectio prima]

Soprano: In - - - - - ci - pit
Alto: In - - - - - ci - pit
Tenor: In - - - - - ci - pit
Bass: In - - - - - ci - pit

8
Soprano: la - men - ta - - - ti - o Ie - re -
Alto: la - men - ta - - - ti - o Ie - re -
Tenor: la - men - ta - - - ti - o Ie - re -
Bass: la - men - ta - - - ti - o Ie - re -

14 b
Soprano: -mi - e pro - - - phe - - - te.
Alto: -mi - e pro - phe - - - te.
Tenor: -mi - e pro - - - phe - - - te.
Bass: -mi - e pro - - - phe - - - te.

21 b
Soprano: A - - - - - leph.
Alto: A - - - - - leph.
Tenor: A - - - - - leph.
Bass: A - - - - - leph.

Aleph tacet

40

2. Magnificat octavi toni

23

- us in de - - o sa - lu -
- us in de - - o sa - lu - ta -

29

- ta - ri, sa - - - - lu - - - ta -
- ri, sa - lu - ta - ri, sa - - - - lu - - - ta -

35

S - - ri me - o.
A - - ri me - - o. Qui - a re - spe -
T Qui - a re - spe -
B Qui - a re - - - spe -

41

Qui - - a re - spe - - - xit
- - - xit, re - spe - - - xit
- - - xit, re - - - spe - xit
- - - xit, re - - - spe - - - xit

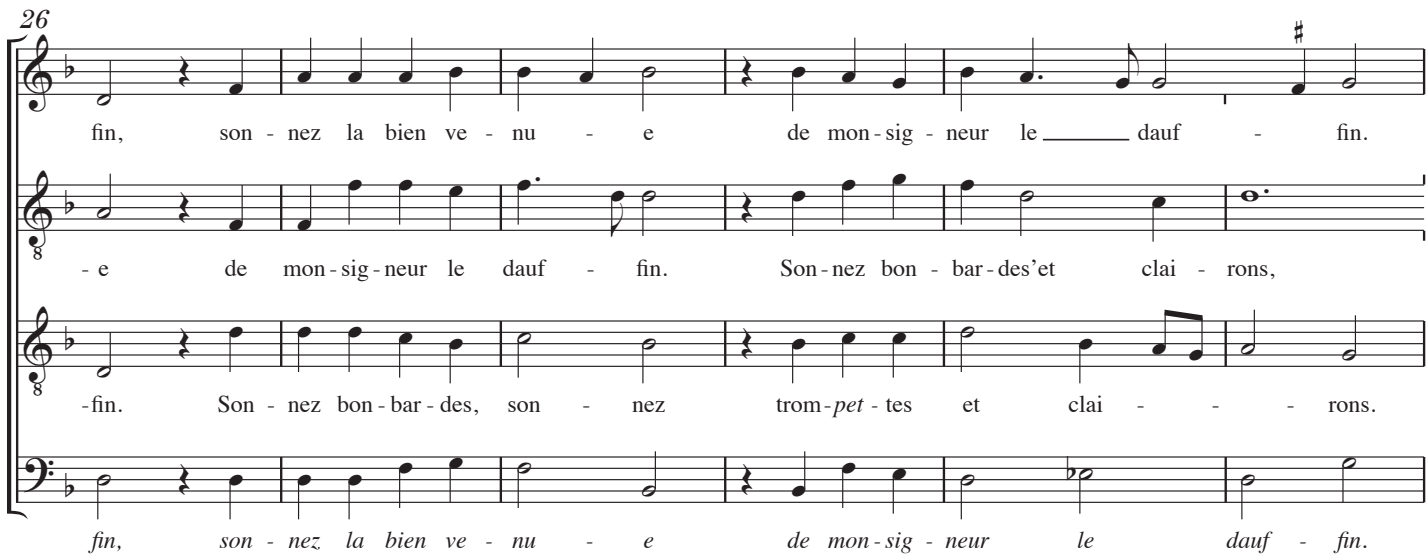
47

hu - - mi - li - ta - tem an - - -
hu - - mi - li - ta - tem
hu - - mi - li - ta - tem an - - -
hu - - mi - li - ta - tem an - - -

58

3. Bon temps/Adieu mes amours

26



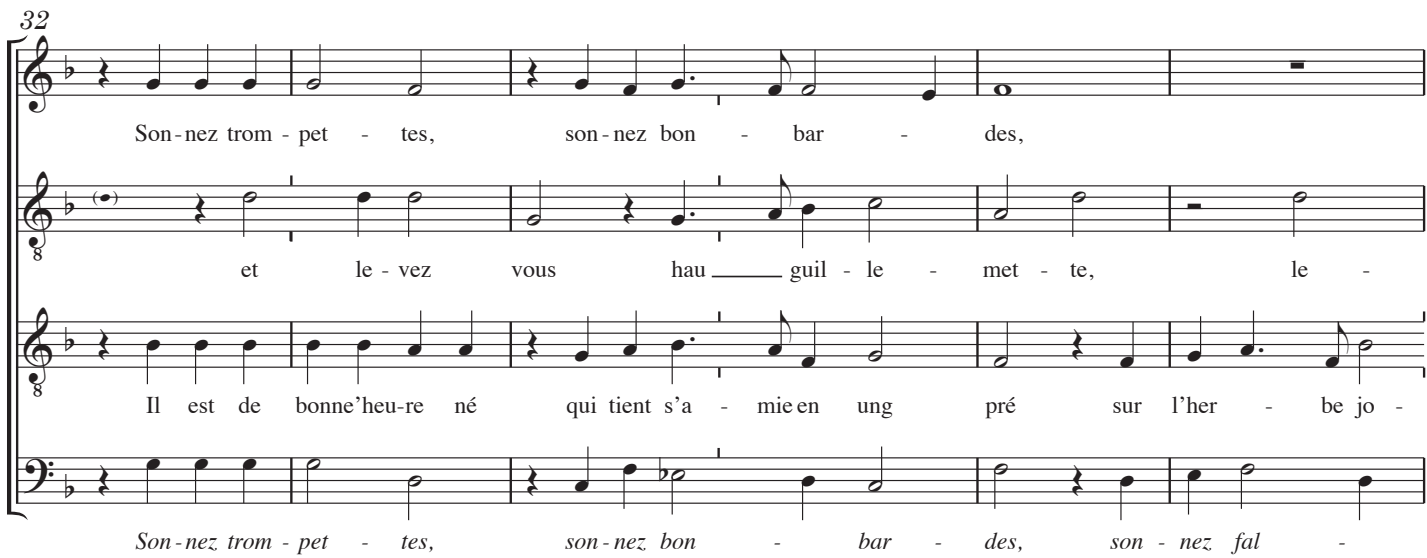
fin, son - nez la bien ve - nu - e de mon - sig - neur le dauf - fin.

- e de mon - sig - neur le dauf - fin. Son - nez bon - bar - des'et clai - rons,

- fin. Son - nez bon - bar - des, son - nez trom - pet - tes et clai - rons.

fin, son - nez la bien ve - nu - e de mon - sig - neur le dauf - fin.

32



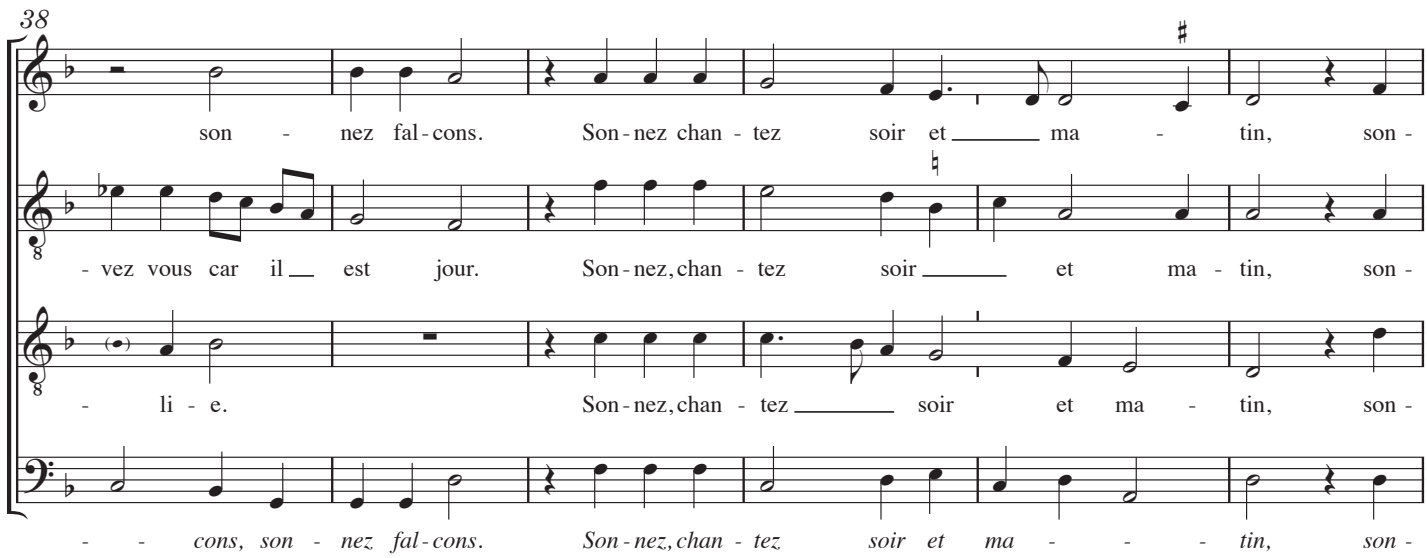
Son - nez trom - pet - tes, son - nez bon - bar - des,

et le - vez vous hau - guil - le - met - te, le -

Il est de bonne'heu-re né qui tient s'a - mie en ung pré sur l'her - be jo -

Son - nez trom - pet - tes, son - nez bon - bar - des, son - nez fal -

38



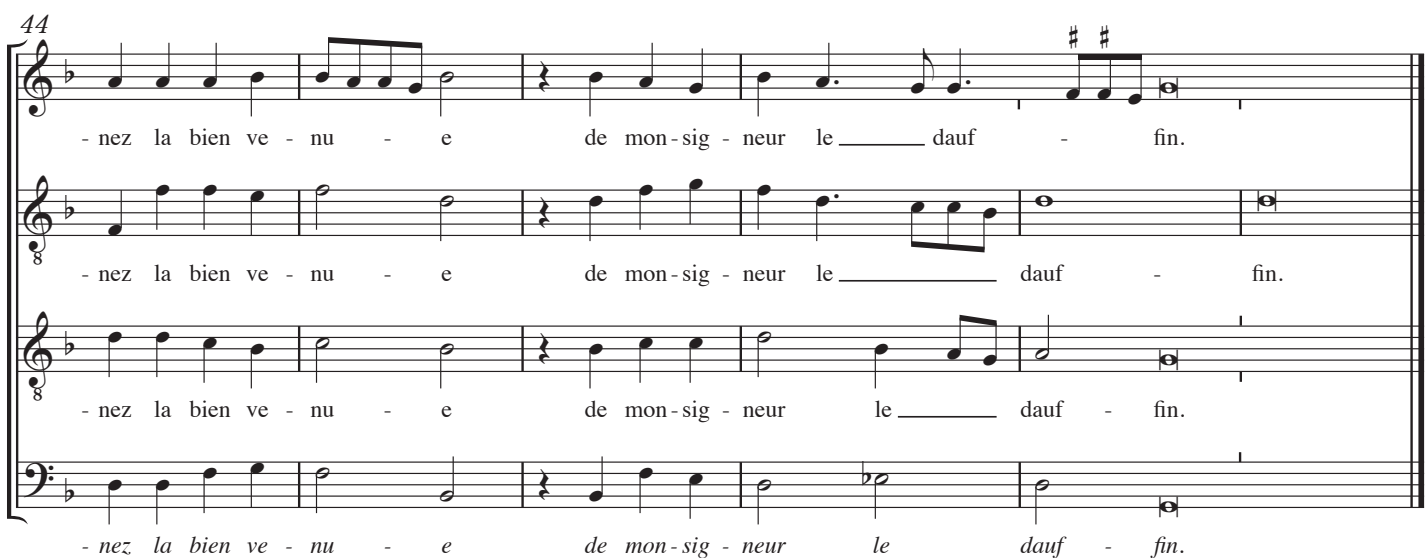
son - nez fal - cons. Son - nez chan - tez soir et ma - tin, son -

- vez vous car il est jour. Son - nez, chan - tez soir et ma - tin, son -

li - e. Son - nez, chan - tez soir et ma - tin, son -

- cons, son - nez fal - cons. Son - nez, chan - tez soir et ma - tin, son -

44



- nez la bien ve - nu - e de mon - sig - neur le dauf - fin.

- nez la bien ve - nu - e de mon - sig - neur le dauf - fin.

- nez la bien ve - nu - e de mon - sig - neur le dauf - fin.

- nez la bien ve - nu - e de mon - sig - neur le dauf - fin.

B2. J'ay pris amours (intabulation)

Measures 1-6 of the piece. The music is in 3/4 time and features a treble and bass clef. A flat (b) is placed above the staff in measure 5.

Measures 7-12 of the piece. The music continues with various chordal textures and melodic lines in both hands.

Measures 13-18 of the piece. A flat (b) is placed above the staff in measure 14.

Measures 19-24 of the piece. Two sharps (#) are placed above the staff in measures 19 and 21.

Measures 25-30 of the piece. A flat (b) is placed above the staff in measure 26.

Measures 31-36 of the piece. A sharp (#) is placed above the staff in measure 31.