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The Ohio State University, 1993
DE PRECEPTIS ARTIS MUSICAE OF GUILIELMUS MONACHUS:
A NEW EDITION, TRANSLATION, AND COMMENTARY

DISSERTATION

Presented in Partial Fulfillment of the
Requirements for the Degree Doctor of
Philosophy in the Graduate School of
The Ohio State University

By

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The Ohio State University
1993

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Adviser
School of Music
To my Mom and Dad,
and my Brothers and sister
and to
my husband, Jaehyung
ACKNOWLEDGMENTS

I wish to express sincere appreciation to my adviser, Professor Charles Atkinson, for his invaluable support, painstaking guidance, and encouragement throughout this project. Thanks is expressed to the other members of my dissertation committee, Professor Lois Rosow and Professor Burdette Green for their careful reading and suggestions. Additional thanks are extended to other music history faculty members at The Ohio State University. Much appreciation is also expressed to Professor William Conable and Professor Thomas Heck. My thanks are also given to Professor Klaus-Jürgen Sachs of the University of Erlangen-Nürnberg for his thoughtful advice. I would also like to thank The Ohio State University for the support of a Presidential Fellowship.

To my fellow friends I wish to thank for their fellowship and encouragement. I owe a special thanks to Jongeun and my younger brother, Chul, for their precious assistance and emotional support.
Finally, I would like to express deepest gratitude to my parents and to my husband, Jaehyung, for their sacrifices, patience, and love which brought this project to completion.
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INTRODUCTION

De Preceptis artis musicae is the only known work by Guilielmus Monachus, who lived in the late fifteenth and early sixteenth centuries. The treatise appears in only one manuscript, preserved at the Biblioteca Nationale di San Marco of Venice. The first edition of De Preceptis artis musicae was published by C. E. H. de Coussemaker, in the third volume of Scriptorum de Musica Medii Aevi: Novam seriem a Gerbertina alteram, pp. 273-307.

Almost nothing is known of the biographical details of the life of Guilielmus Monachus; even the question of his nationality is subject to controversy. Several scholars, such as Guido Adler², Andrew Hughes³, and Albert Seay⁴, presumed


³Hughes, "Guilielmus Monachus," p. 815.
Guilielmus was an Italian theorist because of 1) his distinction of English and French practices from Italian ones by means of the phrase "apud nos (by us)," 2) the similarity of his examples to the laude of his time, and 3) the Italian character of the hand of the scribe. Other scholars, however, such as Brian Trowell and John Spratt, assumed that Guilielmus was an English monk, since he was well informed about the practice of faburden and fauxbourdon in English music, but did not mention any French or Burgundian practices. My own work with the treatise thus far leads me to the opinion that he was probably an English monk who made Italy his home for some time. Guilielmus's detailed discussion of the practice of fauxbourdon and gymel in De Preceptis artis

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5 See Chapter VI, 38.


8 This is also the conclusion reached by Trowell in "Faburden and Fauxbourdon," p. 68. On this question, see Commentary, pp. 336-342 below
De Preceptis artis musicae implies that this work was produced at the end of the fifteenth century, when this practice became an important feature of music and music theory both in England and on the continent.

De Preceptis artis musicae has long been important in music-historical writing, primarily because it is one of the most valuable sources contributing to our knowledge of the fifteenth-century practice of fauxbourdon and gymel. Fauxbourdon holds a special place in the history of music theory because it enjoyed special popularity among both fifteenth-century theorists and practical musicians. Since the 1950s, the theory and practice of fauxbourdon have become an important area of research among scholars. Although a number of important studies have been carried out by specialists in efforts to gain a full understanding of the subject, their interpretation of certain passages in De preceptis artis musicae has resulted in controversies, claims and counter-claims on this topic. The problem has been further complicated by the fact that some musical examples at the end of Guillemus's text fail to clarify his discussion. The accurate interpretation of the text of this treatise

9See, for example, Heinrich Besseler, Bourdon und Fauxbourdon (Leipzig: Druck und Verlag von Breitkopf & Härtel, 1974) and Manfred P. Bukofzer, "Fauxbourdon Revisited," The Musical Quarterly (1952), pp. 22-47.
requires still further scholarly attention, part of which involves emendation of some problematic musical examples.

Another important feature of *De preceptis artis musicae* and one which has received virtually no comprehensive scholarly attention thus far, is its presentation of mensuration and proportional theory. This part of the treatise is particularly valuable since it is written more from the viewpoint of practical musicians than from that of theorists and mathematicians. Guilielmus's discussion of proportions shows his deep concern for practical application of proportional theory on the part of singing and playing musicians. In contrast to the discussions of Tinctoris or Gaffurius, Guilielmus's presentation deals with the most common and rather simple proportions.

Although *De Preceptis artis musicae* has been widely used and frequently quoted, especially for its discussion of fauxbourdon, work with the treatise has been fraught with difficulties. One of the largest of these has been Coussemaker's unreliable edition, which contains many errors.

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10 Curt Sachs was the earliest musicologist to give a survey of Guilielmus's mensuration signs. However, Sachs considered them to be proportional signatures (*Rhythm and Tempo*, pp. 206-210). The most recent study of mensuration and proportional signs is Anna Maria Busse Berger, *Mensuration and Proportion Signs: Origins and Evolution* (Oxford: Clarendon Press, 1993), in which she makes mention of Guilielmus's views on mensuration and proportional theory.
in both text and musical examples. Several scholars, such as Bukofzer, Adler, and Trumble, have made emendations to the passages discussing fauxbourdon and gymel. Given such problems, and the obvious importance of the treatise, it is all the more surprising that neither a completely reliable modern edition nor an English translation of *De Preceptis artis musicae* has thus far been made. A partial translation of the treatise into German was made by Guido Adler at the end of the nineteenth century, but this work also added difficulties of its own. In 1965 a critical edition of the Latin treatise was published by Albert Seay (*Guilielmi Monachi: De Preceptis Artis Musicae*, vol. 11 of *Corpus Scriptorum de Musica*), based on the original manuscript. Seay's edition was a valuable contribution, but it did not attempt to deal with the fact that the original manuscript itself appears to be an unsystematically organized and poorly edited compilation.\(^\text{11}\) Some of the musical examples are misplaced or omitted, and inconsistencies between the examples and the text may be found in several places. Since Seay did not correct the musical examples, but merely

\[^{11}\text{This point has already been made by Albert Seay, who says that there is no systematic approach in the sequence of topics nor is there an effort to eliminate repetitions (Guilielmi Monachi: De preceptis artis musicae, CSM vol. 11, p. 7).}\]
provided a diplomatic transcription, they still present problems and require some emendations.\textsuperscript{12}

For proper understanding of the practice of fauxbourdon and proportional theory as discussed by Guilielmus, one of the first desiderata has been the establishment of a reliable Latin text of his treatise. The present work attempts to answer that need by presenting a new edition of the Latin text of \textit{De Preceptis artis musiceae} from the original manuscript. It also provides a translation of the text into English, a transcription of all musical examples into modern notation, incorporating the requisite emendations in several places, and provides a comprehensive commentary on the treatise as a whole. In accomplishing these tasks, I have tried to bring to an end some of the confusion and controversy about Guilielmus's discussion of the practice of fauxbourdon and gymel. It is also my hope that this work will contribute to our understanding of the practical application of proportional notational theory by performing musicians in Guilielmus's time.

The present critical edition, English translation and modern transcription of this treatise are based on the microfilm of the manuscript, preserved at the Biblioteca

\textsuperscript{12}It should also be pointed out that in some cases Professor Seay has misread the notes in the manuscript.
Nationale di San Marco of Venice (Venice, Bibl. di S. Marco, Lat. 336 (Contarini), coll. 1581. The order of the original manuscript has been maintained throughout. Chapter headings have been set apart from the running text, and the sentences have been numbered consecutively in each chapter. The verso (v) and recto (r) of each folio of the treatise are indicated as footnotes in the Latin text. For the convenience of the reader in comparing Latin and English, specific passages are referred to via chapter number (Roman) followed by sentence number (Arabic). Inserted words or phrases that do not appear in the original manuscript are enclosed in brackets: [ ]. All emendations are indicated in the footnotes.

All of Guilielmus's musical examples are transcribed into modern notation. Ligatures in the original notation are indicated in the transcriptions by a square bracket above the notes: [ ]. Blackened notes in the original notation are also indicated in the transcription by angle brackets above the colored note or notes: [ ]. All proportional signs that appear in the manuscript are shown in the transcriptions together with the value of a white semibreve, breve, or blackened breve to clarify the temporal relationship between sections or parts. In each example the incipits of each part are given in the original notation.
Part I: Latin Text

1) Guilielmi Monaci cantoris integerrimi ac viri eruditissimi de praeciptis artis musicae et practicae compendiosus libellus feliciter incipit.

I 2) Nota quod duplex est prolatio, scilicet, maior et minor. 3) Maior dividitur per perfectum et imperfectum, minor similiter per perfectum et imperfectum.

4) Nota quod ubicumque est punctus, ibi est signum maioris prolationis perfectae sive imperfectae et est numerus ternarius in minimis. 5) Et ubicumque non est punctus, ibi est signum minoris prolationis sive perfectae sive imperfectae. 6) Et haec sunt signa subsequentia:

Ex. 1:

\[ \text{Ex. 1: } \]

---

\(^{1}\text{f. 2r.} \)
7) Nota quod sunt multa alia signa ex hiis composita tamquam ex principalioribus, de quibus inferius in tractatu de cantu organico ad longum determinabimus, et de eorum valoribus et alterationibus, etc.

8) ☞ Signum maioris perfecti in quo est numerus ternarius in semibrevis, ♡♡♡ hoc est, brevis perfecta, □ valet tres semibreves,♡♡; et semibrevis,♡, tres minimas, ♡♡♡, ut hic: □ | ♡♡ ; ♡ | ♡♡♡.

9) Maxima sub hoc signo,² □, valet duas ♡♡; ♡ valet □□ ; □ valet tres semibreves, ♡♡; ♡ valet tres ♡♡; et □ valet duodecim semibreves; □ imperfecta duas ♡♡; et semibrevis imperfecta ♡♡ propter punctum.

10) ☞ Signum maioris imperfecti in quo est numerus binarius in semibrevis, hoc est, brevis, □ valet duas semibreves, ♡ ♡ ; et semibrevis³ praevalet tres minimas, ut hic: □ | ♡ ♡ ; ♡ | ♡♡♡.

11) ☞ Signum minoris perfecti in quo est numerus ternarius in semibrevis, hoc est, brevis perfecta valet tres semibreves, et semibrevis valet duas minimas, ut hic: □ | ♡♡ ; ♡ | ♡♡.

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²MS: (Signo) valet deleted.

³MS: semibreves.
12) Et nota quod brevis non potest imperfecti nisi sequatur minor ea per regulam, similis ante similem non potest imperfecti, ut hic: □ □ ◦.

13) Signum minoris imperfecti in quo est numerus binarius in semibrevis, hoc est, brevis valet duas semibreves et semibrevis valet duas minimas. 14) Nota quod omnia signa reverse facta sunt per medium antecedentis, ut hic patet in signissequentibus: ◦ ◦ ◦ ◦.

15) Omnia autem ista signa quatuor sunt per medium, scilicet, haec: § § § §.

16) Nota quod quinque principales sunt figurae, scilicet, maxima, □, longa, □, brevis □, semibrevis, ◦, et minima, ◦. 17) Semiminima autem et dimidia semiminima extrahuntur a minima, ut hic patet inferius: § § ◦ ◦ ◦ ◦ ◦.

18) Nota quod quinque sunt [principales] pausae, scilicet, pausa maximae, pausa longae, pausa brevis, pausa semibrevis, pausa minimae, pausa semiminimae, etc., ut patet inferius:

Ex. 2:

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
</table>

---

4 An additional set of four reversed signatures was crossed out.
19) Nota quod tres sunt caudae per quas cognoscuntur figurae, scilicet, cauda tendens a parte dextra, quae est semper longa vel maxima: \[\text{\textbackslash d}\text{\textbackslash q}\text{\textbackslash d}\].

20) Cauda tendens a parte sinistra deorsum, quae est brevis. Exemplum: \[\text{\textbackslash d}\text{\textbackslash d}\].

21) Et cauda tendens a parte sinistra sursum, quae est semper semibrevis, ut hic: \[\text{\textbackslash d}\text{\textbackslash d}\].

22) Nota quod duo sunt puncti, scilicet, augmentationis et divisionis. 23) Augmentationis est ille qui augmentat figuram de tertia parte, ut puta maxima quae valet duodecim semibreves, cum puncto valet octodecim. et semper punctus augmentat de tertia parte, ut hic patet: \[\text{\textbackslash d}\text{\textbackslash d}\].

24) Punctus vero divisionis est ille qui dividit figuram de figura, qui vero punctus non profertur, ut hic: \[\text{\textbackslash d}\text{\textbackslash d}\].

25) Et nota quod nullus punctus dicitur divisionis quin sit reductionis, qui ab aliquibus dicitur reportationis, quia sic dividit figuram a figura, ergo reducit figuram cum figura, etc.

26) Nota quod quinque sunt litterae sive signa per quas vel quae cognoscitur omne organum, scilicet: \[\text{\textbackslash d}\text{\textbackslash d}\].

27) \[\text{\textbackslash d}\text{\textbackslash d}\] enim simplex denotat ternalitatem semibrevium, hoc est, brevis valet tres semibreves. 28) Et nota super hoc quod omnes figurae possunt esse perfectae et imperfectae.
29) Nota quod sola semibrevis et minima imperficiunt omnes figuras sive a parte ante, sive a parte post, sive a parte ante et a parte post simul.

30) \( \text{\textcircled{c}} \) vero denotat binalitatem semibrevis. 31) Maxima, \( \text{\textcircled{e}} \), sub isto signo valet octo semibreves, longa, \( \text{\textcircled{p}} \), valet quatuor semibreves, et brevis \( \text{\textcircled{i}} \), valet duas semibreves, et semibrevis duas minimas, etc.

32) \( \text{\textcircled{o}} \) punctus vero denotat semper ternalitatem minimarum.

33) \( \text{\textcircled{2}} \) vero medium sive diminutionem de tertia perte signat.

34) \( \text{\textcircled{3}} \) vero aliquotiens denotat ternalitatem minimarum et aliquotiens signat ternalitatem semibrevis, etc.

Ex. 3:
35) Similis ante similem est; non potest imperfecti.

Ex. 4:

\[ \begin{array}{ccccccccc}
\text{3} & \text{2} & \cdot & \cdot & \cdot & \cdot & \cdot & \cdot & \cdot & \cdot \\
\text{1} & \text{2} & \cdot & \cdot & \cdot & \cdot & \cdot & \cdot & \cdot & \cdot
\end{array} \]

36) \[ \text{C} \quad \text{semper} \quad 2 \]

37) Omnes figurae nigrae modo, prolatione et tempore et proportione, diminuuntur de tertia parte, ut maxima quae valet duodecim semibreves non valet nisi octo cum sit nigra, et sic de ceteris figuris, ut hic:

Ex. 5:

\[ \begin{array}{ccccccc}
\text{1} & \text{3} & \text{6} & \text{2} & \cdot & \cdot & \cdot \\
\text{1} & \text{3} & \text{6} & \text{2} & \cdot & \cdot & \cdot
\end{array} \]

38) Et nota quod si in prolatione ternaria, scilicet,

\[ \bullet \quad \bigcirc \]

si duae semibreves ponuntur absque puncto inter duas breves, secunda illarum alterat, hoc est, valet duas semibreves, ut hic:

\[ \begin{array}{ccccccc}
\text{1} & \text{3} & \text{6} & \text{2} & \cdot & \cdot & \cdot \\
\text{1} & \text{3} & \text{6} & \text{2} & \cdot & \cdot & \cdot
\end{array} \]

---

\(^5\text{MS: similis.}\)

\(^6\text{This refers to perfect tempus.}\)
39) Et in maiori perfecto et imperfecto, si duae minimae ponantur inter duas semibreves absque puncto, similiter illa secunda minima alterat, ut hic:

Ex. 7:

40) Nota quod duplex est numerus, scilicet, ternarius qui est perfectus et binarius qui est imperfectus.

41) Nota quod tria sunt signa quae serviant numero perfecto, scilicet ista, $\circ \bigcirc 3$, et duo sunt signa serventia numero binario, scilicet ista: $\text{C} \ 2 \ \text{C}$.

42) Nota quod duo sunt tempora, scilicet, perfectum et imperfectum, hoc est, duae sunt breves, scilicet, perfectae et imperfectae. 43) Perfectae sunt quando valent tres semibreves, imperfectae sunt quando valent duas semibreves.

44) Hoc tempus perfectum est quando numerus est ternarius; tempus vero imperfectum est quando numerus est binarius, ut hic patet:
Ex. 8:

\[ \begin{array}{llll}
5 & 3 & 3 & 2 \ 2 \ 2 \\
\hline
C & \text{ } & \text{ } & C \ 3 \ 3 \\
\end{array} \]

45) Duplex est modus, scilicet, perfectus et imperfectus.

46) Modus perfectus est quando longa valet tres breves.\(^7\)

47) Modus vero imperfectus est quando longa valet duas breves, de quo hic intelligimus.

48) Nota quod figurae possunt variari: maximae, longae.

\(^7\)MS: semibreves.


II\textsuperscript{8} 1) Sequitur de diversitate figurarum.

2) Et primo de maximis et deinde de reliquis:

Ex.9:

\begin{center}
\includegraphics[width=\textwidth]{image9.png}
\end{center}

3) Caput sine\textsuperscript{9} cauda dicitur esse longa et ultima descendens deorsum etiam dicitur esse longa.

Ex.10:

\begin{center}
\includegraphics[width=\textwidth]{image10.png}
\end{center}

4) Nota quod si sint tres ligatae ita quod prima sit semibrevis habens caudam a parte sinistra ascendentem, ut hic: \includegraphics[width=0.2\textwidth]{image11.png}, et sit in numero ternario, ut puta: \includegraphics[width=0.2\textwidth]{image12.png}, prima est semibrevis, secunda brevis imperfecta, tertia brevis perfecta, quarta similiter brevis, quinta et ultima dependens dicitur esse longa. 5) Si vero sit in numero binario, prima est semibrevis et secunda similiter, tertia vero semper

\textsuperscript{8f. 4r.}

\textsuperscript{9MS: sive.}
brevis, quarta vero brevis et non valet nisi duas semibreves, ultima vero longa quae non valet nisi quatuor semibreves, etc.

6) Nota quod punctus maximae valet tot sicut longa, punctus longae tot sicut brevis, punctus brevis valet tot sicut semibrevis, punctus semibrevis tantum sicut minima, et punctus minimae valet tantum quantum semiminima\(^{10}\), et punctus semiminimae valet tantum quantum media semiminima et sic in infinitum procedendo in punctos diminuendo, etc.

7)\(^{11}\) De ligaturis omnium figurarum et earum diversitate.

8) Et primo de maximis et postea de aliis, ut hic patet inferius:

Ex.11:

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\(^{10}\)MS: semiminimam.

\(^{11}\)f. 4v.
III\textsuperscript{12} 1) Proportio est multiplex.

2) Proportionis maioris inaequalitatis rationalis quinque sunt species, scilicet, tres simplices et duae compositae. 3) Simplices sunt proportio multiplex, proportio superparticularis et proportio superpartiens. 4) Compositae sunt proportio multiplex superparticularis et multiplex superpartiens.

5) Proportio multiplex dicitur quando maius continet minus pluries praecise, sicut proportio duorum ad unum. 6) Et si maius continet minus bis praecise, vocatur dupla, sicut duorum ad unum. 7) Si vero continet praecise ter, dicitur proportio tripla, sicut tria ad unum, et si quater, dicitur quadrupla, sicut quatuor ad unum, et sic in infinitum.

8) Proportio superparticularis est quando maius continet minus semel et non pluries et cum hoc partem aliquotam minoris, sicut est proportio trium ad duo, unde tria continent duo et cum hoc unitatem quae est pars aliquota duorum.

9) Unde viso quod maius continet minus tantum semel et non pluries et cum hoc partem aliquotam minoris, videndum est deinde an illa pars aliquota sit medietas minoris, et si sic, proportio vocatur sexquialtera, sicut est proportio trium ad

\textsuperscript{12}f. 5r.
duo. 10) Si vero est tertia pars minoris, tunc vocatur proportio sexquiquinta, ut proportio quae est quatuor ad tria et octo ad sex. 11) Si vero est quarta pars minoris, tunc dicitur sexquiquarta, sicut quinque ad quatuor et decem ad octo. 12) Si vero sit quinta, tunc dicitur proportio sexquiquinta, et sic in infinitum. 13) Et nota quod pars aliquota est quae aliquotiens sumpta reddit suum totum praecise, sicut tria respectu sex, unde si bis sumantur, tria reddunt praecise sex.

14) Pars vero non aliquota est illa quae aliquotiens sumpta non reddit praecise suum totum, sicut duo respectu quinque, unde si bis sumantur duo, reddunt minus quam quinque. 15) Si vero ter, reddunt plus.

16) Proportio superpartiens est quando maius continet minus semel tantum et non pluries, et cum hoc aliquam partem non aliquotam minoris, sed compositam ex partibus aliquotis minoris, sicut est proportio quinque ad tria, unde quinque tenent semel tria, et cum hoc numerum binarium qui non est pars aliquota numeri ternarii, licet contineat in se duas partes aliquotas eius, scilicet, unitates.

17) Unde viso quomodo maius continet minus semel tantum et non pluries, et cum hoc partem non aliquotam minoris, sed compositam ex partibus aliquotis minoris, videndum est de parte non aliquota, quot partes aliquotas minoris numeri in
se contineat, unde si contineat duas, vocatur proportio superbipartiens, sicut est proportio quinque ad tria. 18) Si vero contineat tria vocatur proportio supertripartiens, sicut est proportio octo ad quinque. 19) Si vero contineat quatuor, dicitur proportio [super] quadripartiens, sicut est proportio novem ad quinque, et sic in infinitum.

20) Deinde hoc viso, ad habendum notitiam magis specialem videndum est quomodo se habent illae partes aliquotae respectu minoris, utrum sint tertiae vel quartae vel quintae vel sextae.

21) Si sint tertiae, vocatur proportio superpartiens tertias. 22) Si vero sint quartae, dicatur proportio superpartiens quartas et sic in infinitum. 23) Ex hiis potest eligi nomen specificum proportionis superpartientis. 24) Unde, si maius continet minus semel et cum hoc partem eius non aliquotam, duas partes minoris aliquotas in se continentem, quarum quaelibet est tertia pars numeri minoris, tunc proportio talis dicitur superbipartiens tertias, ut est proportio quinque ad tria. 25) Si vero maius contineat minus semel et cum hoc partem non aliquotam minoris, continentem in se partes tres aliquotas minoris, quarum quaelibet est quarta pars eius, tunc dicitur proportio supertripartiens quartas, sicut est proportio septem ad quatuor. 26) Si vero maius contineat minus semel et cum hoc partem non aliquotam,
continentem in se tres partes aliquotas minoris, quarum quaelibet est quinta [pars] minoris, tunc dicitur supertripartiens quintas, sicut octo ad quinque\textsuperscript{13}. 27) Et ita proportionaliter intelligendum est de aliis.

28) Si vero maius contineat minus aliquoti pluries et cum hoc aliquid ultra quod est pars aliquota minoris, tunc dicitur proportio multiplex superparticularis, sicut est proportio quinque ad duo, et species eius sunt dupla sexquialtera, tripla sexquialtera. 29) Unde, si maius continet minus bis et cum hoc partem aliquotam, et pars ista aliquota sit medietas minoris, vocatur dupla sexquialtera, ut quinque ad duo. 30) Si vero bis et cum hoc partem aliquotam quae sit tertia pars minoris, dicitur proportio dupla sexquitertia, sicut est proportio septem ad tria, et sic de aliis.

31) Si vero maius contineat minus pluries et cum hoc aliquid ultra quod sit pars non aliquota minoris, dicitur multiplex superpartiens, sicut proportio octo ad tria. 32) Et si maius continet minus bis et cum hoc partem non aliquotam continentem in se duas aliquotas minoris, vocatur superbipartiens dupla, sicut octo ad tria. 33) Si vero quaelibet illarum partium aliquotarum sit tertia pars minoris, vocatur dupla superbipartiens tertias, sicut est

\textsuperscript{13}MS: sex.
octo ad tria, quia octo continet bis tria et cum hoc eius
partem non aliquotam, scilicet, duo, quae continent duas
partes aliquotas minoris. 34) Quare partium quaelibet est
tertia pars minoris numeri, scilicet, tria, et
proportionabiliter, sic dicendum est de aliis speciebus
multiplicis superpartientis, permiscendo multiplicem cum
superpartiente, secundum illa quae dicta sunt seorsum de
proportione multiplici et superparticulari.

35) Notandum quod ad habendum tot species proportionis
minoris inaequalitatis, non expedit nisi addere supradictis
nominibus et speciebus subdicendo submultiplex,
[sub]superparticularis, [sub]superpartiens. 36) Unde
superius dictorum sufficientia debet sic accipi:

37) Omne maius comparatum alteri minori habens ad ipsum
proportionem rationalem vel continet minus pluries et nihil
ultra, vel semel et aliquid ultra, vel pluries et aliquid
ultra. 38) Si primum sic, est proportio multiplex; si
secundum, hoc est dupliciter, quia vel illud quod est ultra
est pars aliquota minoris et sic est proportio
superparticularis, vel est pars non aliquota bis continens in
se tantum partes aliquotas aequales minoris, et sic est
proportio superpartiens. 39) Si dicatur tertium, tunc iterum
illud quod ultra continetur vel est pars aliquota minoris et
sic est proportio multiplex superparticularis, vel est pars
non aliquota minoris praedicto modo se habens, et sic est proportio multiplex superpartiens. 40) Et haec dicta sufficiant.

41) Sequuntur aliquae proportiones diversarum prolationum exemplariter notata ad habendum faciliorem earum cognitionem, et primo de sexquialtera super perfecto minore, etc., ut in folio sequenti patet.

42) Sexquialtera super perfecto minore exigit ut minimae numerentur terna e uti numerantur minimae temporis imperfecti maioris, et eodem modo minimae alterantur ante semibreves, et ut ibidem semibreves sunt imperfectae ante minimas ponunturque tres minimae pro singulo ictu pausae communis semibrevis, quo pausantur mensurae temporis imperfecti sive perfecti minoris atque eodem modo cantantur ut ipsum imperfectum tempus maioris prolationis, ut inferius exemplariter patet:

Ex. 12:
43) Sexquialtera nigra super perfecto minore exigit secundum quosdam ut numerentur semibreves binae, et numerus finiet in sex. 44) Secundum alios autem exigit ut minimae numerentur trinae, et nihil differt ab alba, nisi quod hic fiunt notae nigrae loco signi sexquialterae albae, eodemque modo alterantur minimae et similiter cantantur, ut patet in exemplo sequenti:

Ex.13:

Ex.14:
45) Sexquialtera super semi vel de modo imperfecto vel dupla minoris imperfecti exigit ut numerentur semibreves trinae; nigrae vero semibreves, si interponantur, numerentur binae, numerum finientes in sex. 46) Cantantur autem semibreves uti cantantur minimae illius sexquialterae quae est super perfecto minore; alterantur quoque semibreves ante breves, ut patet in exemplis sequentibus et inferius notatis: Ex.15:
Ex. 16:

Ex. 17:
47) Sexquialtera nigra eisdem super prolactionibus seu mensuris exigit ut nigrae sine signo perdant tertiam partem, quod et in pausis itidem observant, et ulterius non pertendit nisi quantum nigrae perseverant; alterantur quoque semibreves ante breves. 48) Nihil enim differt ab alba nisi quod ista ut nigra loco signi albae, ut idem super sexquialtera nigra super perfecto minore diximus, ut patet in exemplis sequentibus notatis:

Ex.18:

Ex.19:
49) Subsexquialtera\textsuperscript{14} in omni prolatione exigit ut ponantur duae pro tribus, ita ut tertia pars sit augmentata, videlicet, maxima valet unam maximam cum dimidia, et longa valet unam longam cum dimidia, et sic de ceteris, ut in exemplo patet, cuius hoc signum est: \(\frac{2}{3}\).

\textbf{Ex.21:}

\textsuperscript{14}MS: subsexquitertia.
50) Dupla post sexquialteram super perfecto minore, vel sicut iacet, exiguit ut numerentur semibreves trinae uti numerantur minimae proportionis antecedentis, et sicut ibidem alterantur minimae ante semibreves, ita in hac dupla alterantur semibreves ante breves, eodemque modo cantantur quo cantur sexquialtera pro semi, cuius hoc signum: 2.

Ex.22:

Ex.23:
51) Dupla post sexquialteram super semi vel de modo sui perfecto vel dupla minoris imperfecti exigit ut sex semibreves ponantur pro singulo ictu pausationis eodem, videlicet, modo uti pausando sexquialteram consimilium prolationum ponuntur tres semibreves pro singulo ictu pausationis. 52) Cantantur igitur semibreves eodem modo quomodo in eadem sexquialtera cantantur minimae, ut in exemplis patet sequentibus:

Ex.24:
53) Seguitur tertium exemplum vertendo folium.

Ex.26:
54) Sexquitertia super imperfecto maiore exigit ut notae albae cantentur eodem modo quo canitur semi, videlicet, quod ponantur duas semibreves pro singulo ictu pausationis, et si venerint notae nigrae, ponantur sex minimae pro singulo ictu pausationis, ut in exemplis patet, cuius hoc signum est: ☐.

Ex.27:

Ex.28:
55) Sexquitertia super perfecto minore exigit ut ponantur quatuor semibreves proportionis super tribus prolationis, cuius mentionem facimus, ut in exemplo patet:

Ex.30:
56) Sexquitertia super semi exigit ut ponantur quatuor breves proportionis super tribus prolationis, cuius hoc signum est: \( \frac{4}{3} \).

Ex.31:

57) Subsexquitertia exigit ut ponantur tres proportionis super quatuor prolationis, si enim contigerit venire super perfecto minore, cantantur minimae eodem modo quo cantuntur semibreves nigrae temporis imperfecti maioris, ut patet in exemplo, cuius hoc signum est: \( \frac{3}{4} \).

Ex.32:

58) Subsexquitertia super semi exigit ut cantentur semibreves uti cantantur minimae suprascriptae, ut patet in exemplo sequenti:
59) Dupla post sexquitertiam super perfecto minore exigit ut ponantur octo semibreves super tribus prolationis, sicut enim sexquitertia exigit ut ponantur quatuor super tribus, sic dupla ibidem octo, ut in exemplo patet:

Ex.34:

60) Dupla post sexquitertiam\textsuperscript{15} super semi exigit ut ponantur octo breves proportionis super tres prolationis, ut in exemplo sequenti patet:

Ex.35:

\textsuperscript{15}MS: subsexquitertiam.
61) Dupla in omni prolatione a cantoria subtrahit medietatem, unde maxima cantatur pro longa, longa pro brevi, brevis pro semibrevis, semibrevis pro minima, ut in exemplo patet:
Ex.36:

62) Subdupla in omni prolatione medietatem auget, unde minima canitur pro semibrevis, semibrevis pro brevi, brevis pro longa, longa pro maxima, ut in exemplo patet, cuius hoc signum est: $\frac{1}{2}$.
Ex.37:
63) Tripla in omni prolacione exigit ut ponantur tres proportionis super unam prolacionis, videlicet, tres maximae super unam maximam, tres longae super unam longam, ac deinceps, ut in exemplo patet, cuius hoc signum est: \(\frac{3}{1}\).

Ex. 38:

64) Quadrupla exigit ut ponantur quatuor proportionis super unam prolacionis, videlicet, quatuor maximae super unam maximam, quatuor longae super unam longam, ac deinceps una maxima cantatur pro brevi, longa pro semibrevi, brevis pro minima, ut in exemplo patet, cuius hoc signum est: \(\frac{4}{1}\).

Ex. 39:
65) Subquadrupla exigit ut ponatur una proportionis super quatuor prolationis, unde brevis cantatur pro maxima, semibrevis pro longa, minima pro brevi, ut patet in exemplo, cuius signum est: \( \frac{1}{4} \).

Ex. 40:

66) Tres minimae ponuntur pro singulo ictu pausationis tam in albis quam in nigris; alterantur quoque minimae ante semibreves.
67) Tertia pars augmentatur; longa valet tres breves, brevis valet tres semibreves, et semibrevis valet tres minimas.

Ex. 42:
68) Quatuor semibreves proportionis ponuntur super tribus prolationis.

Ex. 43:
69) Tres semibreves proportionis ponuntur super unam prolationis.

Ex. 44:
IV 1) Ad habendum veram et perfectam cognitionem modi Anglicorum.

2) Nota quod ipsi habent unum modum qui modus faulxbordon nuncupatur, qui cum tribus vocibus canitur, scilicet, cum suprano, tenore et contratenore. 3) Et nota quod supranus incipitur per unisonum, qui unisonus accipitur pro octava alta, et ex consequenti per tertias bassas, quae tertiae bassae volunt dicere sive representare sextas altas, et postea revertendo ad unisonum, qui vult dicere octavam, ut patet per exemplum. 4) Contra vero accipit suam primam consonantiam quintam altam supra tenorem et postea tertias altas usque finem concordii in quintam altam, ut patet per exemplum:

Ex.45:

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16f. 19v.
5) Nota quod unisonus hic accipitur pro octava, et tertia bassa pro sexta alta, etc.

6) Nota quod isti Anglii habent unum alium modum, qui modus vocatur gymel, qui cum duabus vocibus canitur, et habet consonantias tertias tam altas quam bassas et unisonos, octavam et sextam\(^{17}\) reiterando ad octavam bassam, et habet cum hoc sextas et octavas, ut patet per exemplum: Ex.46:

7)\(^{18}\) Regula ad componendum cum tribus vocibus non mutatis.

8) Fac supranum non disiunctum in illo tono quo volueris uti. 9) Hoc fac secundum supranum accipientem primam consonantiam unisonum, et ex consequenti facias tertias bassas, quatuor vel quinque, vel sex, secundum quod tibi placuerit. 10) Sed facias quod antepenultima et penultima, si descendant, sint tertiae altae; ultima vero sit unisonus,

\(^{17}\)MS: sextas.

\(^{18}\)f. 20r.
et sic de ceteris reincipiendo per tertias bassas, et
veniendo ad unisonum. 11) Contra vero accipiat unisonum et
ex consequenti quintam, tertiam, octavam, tertiam bassam, et
quod penultima sit semper quinta. 12) Exemplum patet
vertendo folium:

Ex.47:
V 1) Circa cognitionem cantus firmi

2) Nota quod septem sunt litterae speciales, scilicet, A B C D E F G, quarum litterarum quatuor sunt finales et naturales, aliae vero non. 3) Finales sunt D E F G, quia omnis cantus in ipsis naturaliter finitur, in aliis autem non naturaliter. 4) Et viginti sunt litterae communes sive generales quae litterae reiterantur, scilicet, G A B C D E F G; A B C D E F G; A B C D E. 5) Quarum litterarum octo sunt graves, septem sunt acutae et quinque superacutae.

6) Octo graves, G A B C D E F G, et dicuntur graves eo quod gravem generant sonum; et septem acutae, scilicet, A B C D E F G, et dicuntur acutae eo quod acuunt, hoc est, in meliori statu vocis sunt; et quinque superacutae, scilicet, A B C D E, et dicuntur superacutae eo quod superacuunt et valde altae stant.

7) Et nota quod ex istis litteris tres sunt litterae per quas litteras cognoscuntur tres proprietates, scilicet, \[ \text{quadratum}, \text{natura et } b \text{ molle.} \]
   8) G enim \[ b \] quadratum designat, C naturam, F \[ b \] molle, ut patet per hunc versum: C naturam dat, F \[ b \] molle, G quoque quadrum.

9) Nota quod duo sunt signa, scilicet, signum\[ b \] quadrati et signum \[ b \] mollis. 10) Signum \[ b \] quadrati servit

\[^{19f. 20v.}\]
naturae et □ quadrato. 11) Signum b mollis servit b mollis.


16) Nota quod sex sunt voces, scilicet, ut re mi fa sol la, quarum vocum tres sunt pro ascensu, scilicet, ut re mi, et tres pro descensu, scilicet, fa sol la, ut patet per versum sequentem: Ut re mi scandunt: fa sol la quoque descendunt.

17) ²²Nota quod septem sunt deductiones, scilicet, tres de □ quadrato, et duae de natura, et duae de b mollis.

18) Et nota ubicumque est G, ibi tota deductio canitur per □ quadrum; ubicumque est C, ibi tota deductio canitur per naturam; ubicumque est F, ibi tota deductio canitur per b mollis.

19) Nota quod deductio est discursus sex vocum, scilicet, ut re mi fa sol la. 20) Nota quod Gamma ut stat in

²⁰MS: Clavis b mollis.

²¹Same as 20.

²²f. 21v.
riga, A re in spatio, B mi in linea et sic procedendo de linea in spatium usque ad finem manus, ut hic inferius patet:

Ex. 48:

21) Nota quod mutantia est mutare unam proprietatem in alteram, sicut \( \uparrow \) quadrum in naturam, vel \( \downarrow \) molle in naturam, vel e converso. 22) Nota quod ubi non est nisi una vox non potest fieri mutantia, et ubi sunt duae voces, ibi sunt duae mutantiae. 23) Et ubi sunt tres voces, ibi sunt sex mutantiae, accipiendo primam et secundam voces et e converso, et primam et ultimam et e converso, et secundam et ultimam et e converso, etc.

24) Nota quod si sunt duae voces debes facere mutantiam tuam dimittendo litteram et accipiendo voces sicut iacent pro ascensu et e converso pro descensu.

25) Nota quod in B fa \( d \) mi non fit mutantia propter semitonium, qui semitonius derivatur de semus, sema, semum,

\(^{23}\text{MS: } b.\)
quod est pars, et tonus, toni, quasi pars toni, et ideo non potest mutantia quia esset discordantia quia fa est semitonus et mi est tonus plenus.24

26) Nota quod secundum Boetium septem sunt consonantiae, scilicet, tonus, semitonus, ditonus, semiditonus, diapason, diapente et diatesseron, de quibus determinabitudur in sequentibus et de deductionibus et mutationibus exemplariter notatis; et primo de aliquibus sofizationibus in principio docendis, etc. 27) Et primo sic incipiendo:

Ex.49:

24MS: planus.
28) Sequuntur septem deductiones, tres de b quadrato, duae de natura, et duae de b molli, ut hic inferius patet exemplariter:

Ex.50:

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prima deductione quadrati Deducit naturae gravis Deducit b molli

seunda deductione quadrati Deducit seconra naturae Secunda deductione b molli

Secunda deductione quadrati et ultima septem deductionem
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29) Sequuntur mutationes per totam manum. 30) Mutatio est signorum et vocis revolutio non mutato sono, et de deductione in deductionem modulationes proferre.

Ex.51:
31) Sequuntur consonantiae septem secundum Boetium inferius notatae.

Ex. 52
VI 1)²⁵ Incipit tractatus circa cognitionem contrapuncti, tam secundum modum Francigenorum quam Anglicorum, cum duabus et cum tribus vocibus et cum quatuor compositis.

2) Et super hoc nota quod quatuor sunt consonantiae simplices, scilicet, dua imperfectae, scilicet, tertia et sexta, et duae perfecta, scilicet, quinta et octava. 3) Et bene dico simplices, quia multae consonantiae possunt esse compositae, nam sub tertia componuntur²⁶ decima et decimaseptima; sub sexta componuntur decimatercia et vigesima; sub quinta componuntur duodecima et decimanona; sub octava componitur decimaquinta.

4) Unisonus autem, secundum Boetium, non est consonantia sed fons et primordiale principium omnium consonantiarum, sicut unitas non est numerus sed fons et primordiale principium omnium numerorum. 5) Et ex istis consonantiiis sex sunt perfectae et sex imperfectae, et hoc intelligo tam de simplicibus quam de compositis, ut hic inferius patet:

²⁵f. 24v.

²⁶MS: componitur.
Unisonus
Quinta
Octava
Duodecima
Decimaquinta
Decimanona

Tertia
Sexta
Decima
Decimatertia
Decimaseptima
Vigesima

6) Ordo autem istarum consonantiarum talis est: quando unisonus requirit tertiam, ipsa tertia requirit quintam; ipsa quinta requirit sextam in eadem sede; ipsa sexta requirit octavam in diversis sedibus; ipsa octava requirit decimam; ipsa decima requirit duodecimam; ipsa duodecima requirit tertiamdecimam in eadem sede; ipsa tertiadecima requirit decimamquintam in diversis sedibus; ipsa decimaquinta requirit decimamseptimam; ipsa decimaseptima requirit decimanonam; ipsa decimanona requirit vigesimam. 7) E contrario sensu ipsa vigesima requirit decimanonam; ipsa decimanona requirit decimamseptimam; ipsa decimaseptima
requirit decimamquintam; ipsa decimaquinta requirit decimamtertiam; ipsa decimatertia requirit duodecimam; ipsa duodecima requirit decimam; ipsa decima requirit octavam; ipsa octava requirit sextam; ipsa sexta requirit quintam; ipsa quinta requirit tertiam; ipsa tertia requirit unisonum.

8) Sequuntur regulae dicti contrapuncti

9) Prima regula talis est, quod nos debemus incipere et finire contrapunctum per speciem perfectam, sed quod penultima sit species imperfecta apta speciei perfectae.

10) Secunda regula talis est, quod nos non possumus facere duas species perfectas similes de linea in spatium tendentes, nec e contrario, de spatio in rigam, sed nos bene possumus facere, si sint quatuor vel tres notulae et quod illae tres sint tres quintae, vel tres unisoni, vel tres octavae, vel quomodocumque, etc.

11) Tertia regula dicti contrapuncti talis est, quod nos bene possumus facere duas vel tres species perfectas dissimiles, sicut quintam et octavam, octavam et duodecimam, duodecimam et decimamquintam, et e converso. 12) Sed non possumus facere unisonum et octavam nec e converso, quia secundum Boetium unisonus reputatur esse diapason, scilicet, octava.

\[27^\text{f.} 25^\text{r.}\]
13) Quarta regula talis est, quod nos de speciebus imperfectis possimus uti ad libitum tam in ascensu quam in descensu de gradu ad gradum, sed quod talis species imperfecta habeat speciem perfectam, qualem requirit sicut, si sit tertia, sequatur quinta, si sit sexta, sequatur octava, et sic de singulis.

14) Quinta regula talis est, quod nos non possimus ascendere nec descendere per species perfectas nisi duobus modis, scilicet, per diapente et diatesseron, scilicet, per quintam et per quartam. 15) Per quintam, sic si cantus firmus descendat quintam, contrapunctus potest descendere cum cantu firme de perfecta consonantia in perfectam consonantiam, sicut de quinta in octavam; per quartam, sic si cantus firmus descendat quartam\(^2\), tunc contrapunctus potest descendere de imperfecto in suum perfectum, sicut de tertia in quintam, ut patet per exemplum: Ex.53:

\(^2\)MS: quartam vel quintam.
16) Sexta regula talis est, quod nos possumus facere fa contra mi, nec mi contra fa, in speciebus perfectis propter semitonum. 17) In speciebus autem imperfectis possumus facere, quia dat dulcedinem.

18) Septima regula talis est, quod in omni contrapuncto debemus semper tenere propinquiores notas sive proximiores, quoniam omne disiunctum insonans.

19) Octava regula talis est, quod quamquam posuerimus duodecim consonantias tam perfectas quam imperfectas, tam simplices quam compositas, non obstante, secundum usum modernum consonantiae dissonantibus aliquotiens nobis serviant, sicut dissonantiae secundae dat dulcedinem tertiae bassae, dissonantiae vero septimae dat dulcedinem sextae, dissonantiae quartae dat dulcedinem tertiae altae, et illa tertia\(^2\) dat dulcedinem quintae et hoc secundum usum modernum.

20) Nona regula talis est, quod quamquam dixerimus quod quinta debeat praecedere sextam in eadem sede, et quod decimamtertiam debeat praecedere decimamquintam in eadem sede, tamen aliquotiens est dulce sextam praecedere quintam, et decimamtertiam praecedere duodecimam, tam in eadem sede quam in diversis sedibus propter dulcedinem.

21) Item maxime vitanda est reiteratio, hoc est, rem unam bis vel ter reiterare, sicut fa, mi, fa, mi, sol, fa, sol, fa, ita quod cantus firmus sic faciat, et sic de regulis dicta sufficiant.

22) Nota quod ad habendam perfectam perfectionem consonantiarum ocularem, nota quod unisonus accipitur pro octava, tercia bassa accipitur pro sexta alta, tercia alta accipitur pro decima, et ipsa quarta bassa accipitur pro quinta alta, et ipsa quinta alta aliquotiens accipitur pro duodecima, et ipsa sexta aliquotiens accipitur pro tercia bassa, et ipsa octava bassa accipitur pro unisono.

23) Sequuntur palmae contrapunctorum.

24) Incipiunt palmae contrapunctorum tam ∣ quadrati alti quam naturae aliae:

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<th>re 12</th>
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³⁰f. 26v.
³¹MS: sol.
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32MS: 5.
33MS: 6.
D ut 5 desuper  mi 3 desuper  sol unisonus
E ut 6 desuper  re 5 desuper  fa 3 desuper  la unisonus
F re 6 [desuper]  mi 5 [desuper]  sol 3 desuper
G ut 8 [desuper]  mi 6 desuper  fa 5 desuper  la 3 [desuper]
A re 8 desuper  fa 6 desuper  sol 5 desuper
B ut 10 [desuper]  mi 8 [desuper]  sol 6 [desuper]  la 5 desuper
C re 10 [desuper]  fa 8 [desuper]  la 6 [desuper]
D ut 12 [desuper]  mi 10 [desuper]  sol 6 desuper
E ut 13 [desuper]  re 12 [desuper]  fa 10 [desuper]  la 8 desuper

G ut 15  mi 17  sol 19  la 20
A re 15  fa 17  la 19
B ut 13  mi 15  sol 17 [desuper]
C ut 12  re 13  fa 15  la 17
D re 12  mi 13  sol 15
E ut 10  mi 12  fa 13  la 15
F re 10  fa 12  sol 13
G ut 8  mi 10  sol 12  la 13
A re 8  fa 10  la 12
B ut 6  mi 8  sol 10
C ut 5  re 6  fa 8  la 10
D re 5  mi 6 [desuper]  sol 8
E ut 3  mi 5  fa 6  la 8
F re 3  fa 5  sol 6

\(^{34}\)MS: 3.
\(^{35}\)MS: 12.
\(^{36}\)MS: fa.
25) Finis palmae contrapunctorum.

\begin{tabular}{llll}
G ut unisonus & mi 3 & sol 5 & la 6 \\
A re unisonus  & fa 3  & la 5  & \\
B ut 3 desuper & mi unisonus & sol 3 & \\
C re 3 desuper & fa unisonus & la 3  & \\
D ut 5 desuper & mi 3 desuper & sol unisonus & \\
E ut 6 desuper & re 5 desuper & fa 3 desuper & la unisonus \\
\end{tabular}
26) Incipiunt regulae contrapuncti Anglicorum, quae secundum ipsos Anglicos duobus modis fit.

27) Primus modus, qui apud ipsos communis est, Faulxbordon appellatur. 28) Qui faulxbordon canitur cum tribus vocibus, scilicet, tenore, contratenore et suprano. 29) Secundus vero modus, qui Gymel appellatur, cum duabus vocibus canitur, scilicet, suprano et tenore. 30) Sequuntur regulae dicti modi.

31) Nota quod, si iste modus canatur secundum ipsos Anglicos, debet assumi supranum cantum firmum, et dictus cantus firmus debet regere supranum sive cantum. 32) Sed hoc intelligendum est in numero perfecto qui numeros perfectus trinarius dicitur, sive talis ternalitas sit in temporibus, sive in semibrevibus, sive in minimis.

33) Nota quod prima nota cantus firmi, quamquam sit sola, debet esse duplicata, hoc est, debet valere duas de aliis notulis, hoc est, debet valere sex notulas.

34) Item, si post primam notulam vel secundam reperiantur duae notulae existentes sub eodem puncto, hoc est, sub eadem riga vel eodem spatio, prima debet facere transitum sive passagium existentes sub eodem puncto et sono.

37f. 27v.
35) Item, ultima notula eundem quoque facit transitum existentem sub eodem puncto et sono.

36) Et nota quod istud Faulxbordon, ut superius dixi, canitur cum tribus vocibus, tenendo ordinationem dictarum notularum superius dictarum, sed quod habeat supranus pro consonantiis primam octavam et reliquas sextas, et in fine concordiorum sit octava, hoc est, habeat sex et octo pro consonantiis supra tenorem. 37) Contratenor vero debet tenere dictum modum suprani; sed quod habeat pro consonantiis tertiam et quintam altas, hoc est, primam quintam, reliquas tertias; ultimus vero finis concordiorum sit quinta, ut patebit per exemplum.

38) Modus autem istius Faulxbordon aliter posset assumi apud nos, non tenendo regulas supradictas, sed tenendo proprium cantum firmum sicut stat, et tenendo easdem consonantias superius dictas, tam in supranum quam in contratenore, possendo tamen facere sincopas per sextas et quintas, penultima vero existente sexta, et sic contratenor sic faciendo, ut patebit per exemplum.

39) In isto enim Faulxbordon potest aliquotiens fieri contratenor bassus et altus, ut inferius videbitur:
40) Contra vero dicitur sicut supranus, accipiendo quartam subtus supranum quae venit esse quinta et tertia supra tenorem. 41) Iste enim modus communiter faulxbordon appellatur, supranus enim ille reperitur per cantum firmum.
42) Ad compositionem vero alterius modi, qui modus Gymel appellatur, dantur aliquae regulae.

43) Prima regula est quod in gymel sex sunt consonantiae, scilicet, tertia tam alta quam bassa, sexta et octava, decima bassa et octava bassa.

44) Secunda regula est quod, si gymel accipiatur supra cantum firmum, debet tenere regulas superius dictas in faulxbordon, hoc est, numerum ternarium, sive talis numerus sit ternarius in semibrevisbus sive in minimis.

45) Tertia regula est quod in faulxbordon potest fieri contratenor bassus, et in gymel potest fieri contratenor bassus, et isti duo modi cum quatuor vocibuspossunt cantari.

46) Quarta regula est quod, si faulxbordon faciat supranum suum per sextas et octavas, facies contratenorem bassum descendem subtus tenorem per quintas et tertias bassas, sed quod semper penultima sit quinta bassa subtus tenorem, quae erit decima cum suprano, et antepenultima erit tertia bassa, et sic iterando per quintas bassas et tertias bassas, ita quod prima nota sit octava bassa vel unisonus, et ultima sit octava bassa vel unisonus. 47) Contra vero altus istius Faulxbordon accipiet suam penultimam quartam supra

38MS: Et nota quod. Secunda Regula add. in marg.
tenorem et suam antepenultimam tertiam supra tenorem, et sic iterando supra tenorem.

48) In Gymel autem potest fieri contratenor, quia si Gymel accipiát consonantias sextas et octavas ad modum de Faulxbordon, tunc contratenor de Gymel potest ire sicut contratenor de Faulxbordon per tertias et quintas, vel potest assumere suam penultimam quintam bassam et suam antepenultimam tertiam bassam, sicut dictum est in praecedenti regula.

49) Si autem tenent tertias et unisonos, ut patet in isto exemplo:

Ex. 55:

```
\begin{music}
\newstaff{\makeatletter}\centerline{\renewcommand{\baselinestretch}{1}\footnotesize \begin{music}\textit{\tenor}\end{music}}\renewcommand{\baselinestretch}{1}\footnotesize
\newstaff{\makeatletter}\centerline{\renewcommand{\baselinestretch}{1}\footnotesize \begin{music}\textit{\bass}\end{music}}\renewcommand{\baselinestretch}{1}\footnotesize
\end{music}
\end{music}
```

tunc contratenor facit suam penultimam quintam bassam et suam antepenultimam tertiam bassam vel octavam bassam, vel

\footnote{\textit{MS}: itinerando.}
unisonum cum tenore, et suam ultimam faciendo octavam bassam, et sic de singulis, ut patebit per exempla.

50) Sequuntur exempla notata:

Ex.56-1:
Ex. 56-2:

Ex. 56-3:
51) Aliud exemplum.

Ex. 57:

52) Aliud exemplum.

Ex. 58:
53) Sequentur aliquae regulae circa compositionem.

54) Et nota quod circa compositionem quatuor vocum sive cum quatuor vocibus supra quemlibet cantum firmum sive supra quemlibet cantum figuratum, facias quod contratenor bassus semper teneat quintam bassam in penultima concordii. 55) Item, quod antepenultima sit tertia bassa, et illa quae est [ante] antepenultimam sit quinta, ita quod principium sive prima nota sit unisonus et ultima concordii etiam unisonus vel octava bassa. 56) Supranus vero semper teneat suam penultimam sextam altam supra tenorem, ita quod finis concordii sit semper octava alta supra tenorem. 57) Et prima nota pariter etiam sit octava, reliquae autem notulae sint semper sextae. 58) Contra vero altus semper faciat suam penultimam quartam supra tenorem, ita quod antepenultima sit semper tertia alta, et illa quae est [ante] antepenultimam sit quarta, et antecedens sit semper tertia, ita quod ultima sit semper tertia alta vel unisonus vel octava bassa, et prima notula pariter, ut patet per exemplum:

40f. 32r.
59) Ab ista enim regula fiunt duae exceptiones, quarum prima talis est quod si cantus firmus teneat modum suprani, sicut fa mi [mi] fa, sol fa fa sol, la sol sol la, tunc contratenor bassus potest tenere modum tenoris, hoc est, facere suam penultimam sextam bassam subtus tenorem, ultimam vero octavam bassam. 60) Contra vero altus tenebit modum contrae, hoc est, faciet suam penultimam tertiam altam, ultimam vero quintam supra contratenorem, quae erit quarta subtus tenorem. 61) Supranus vero faciet suam penultimam quintam altam supra tenorem, quae erit decima cum contratenore basso; ultimam vero suam faciet tertiam supra tenorem, quae erit decima cum contratenore basso.

62) Secunda exceptio talis est, quod si cantus firmus vel cantus figuratus teneat adhuc modum suprani, hoc est, sic
faciat, fa mi fa, sol fa sol, mi re mi, la sol la, tunc contratenor bassus potest facere suam penultimam tertiam bassam subtus tenorem, ultimam vero faciendo octavam bassam subtus dictum tenorem; supranus vero faciet penultimam suam tertiam supra tenorem, ita quod unisonus sit ultima cum tenore, quae erit octava bassa cum contratenore basso. 63) Contratenor altus faciet suam penultimam sextam supra tenorem ultimam vero suam faciendo tertiam supra tenorem, ut patebit per exempla: 

Ex. 60:

64) Alius modus componendi cum tribus vocibus.

65) Facias tuum tenorem non disiunctum et bene intonatum, et facias ipsum diminutum sicut volueris; facias

41f. 34r.
quod supranus teneat pro principio octavam altam, et ex conseqentii facias omnes decimas altas tam in fine concordii quam in principio. 66) Et in medio facias ex consequenti quod contratenor teneat suam primam notulam octavam vel quintam, et quod facias omnes alias notulas sextas altas supra tenorem, ita quod finis concordii sit octava, haec compositio levis et utilis. 67) In ista compositione potest fieri contratenor nec altus nec bassus, ita quod contratenor iste utatur tertiiis altis quod ascendat ad quintam, ad quintam altam in fine concordii, ut patebit per exempla:

Ex. 61:

42MS: Abbr. either "5t" or "st". Coussemaker reads 5t and expands to "quintam tantum." Seay reads the abbreviation as "st," which he expands to "supra tenorem." I have adopted Seay's reading.
68) Alius modus componendi cum tribus vocibus.  

69) Fac tenorem bene intonatum grossum, hoc est, non diminutum et non disiunctum, et fac, si velis, contratenorem bassum subtus tenorem ita diminutum sicut volueris, et fac supranum tuum diminutum sicut contratenorem bassum, et fac quod consonantiae contratenoris bassi cum suprano suo sint quasi omnes decimae.  

70) Item, nota quod consonantiae contratenoris bassi cum tenore sunt istae, scilicet, octava, quinta, sexta et tertia bassa, ita quod penultima concordii sit semper quinta bassa, et antepenultima sit tertia bassa vel octava bassa.

43f. 35r. MS: sequitur aliqu modus componendi add.  

44MS: Cum tribus bis sed semel del.
71) Item, nota quod in isto modo tu potes facere supranum primum tenendo istas consonantias, scilicet, octavam, sextam, quintam, tertiam altam, secu quod penultima concordii sit semper sexta, ultima vero sit octava, ut patet per exempla sequentia:

Ex. 62:
VII\textsuperscript{45} 1) \textit{Incipit tractatus de cantu organico}

2) Et primo nota quod cantus organicus sive figuratus consistit in prolatione, modo, tempore, numero, figuris et pausis, punctis et signis. 3) Et primo nota quod prolatio est trium signorum cognitio, per numerum ternarium et binarium facta, et est notandum quod duplex est prolatio, scilicet, maior et minor. 4) Maior dividitur per perfectum et imperfectum, et minor similiter per perfectum et imperfectum.

5) Nota quod tria sunt signa principalia per quae cognoscitur cantus organicus, scilicet, \(\bigcirc\), \(\bigodot\), \(\bigodot\),\textsuperscript{46} et cum istis signis superadduntur duo alia, scilicet, 2 et 3. 6) Ita enim quinque signa sunt illa per quae cognoscitur prolatio et modus et tempus et partim proportio, sive illa signa sunt simplicia, ut puta:

Ex.63: \[\begin{array}{c}
\bigcirc \bigodot \bigodot \bigodot \bigodot \bigodot \bigodot \bigodot \bigodot
\end{array}\]

sive sint illa signa composita, ut patet hoc modo:

\textsuperscript{45f. 36r.}

\textsuperscript{46MS: \(\bigodot\)}
Ex. 64:

\[
\begin{array}{cccccc}
\bullet & \bullet & \bullet & \bullet & \bullet & \bullet \\
\end{array}
\]

sive illa signa sint plusquam composita, ut hoc modo:

Ex. 65:

\[
\begin{array}{cccccc}
\circ & \circ & \circ & \circ & \circ & \circ \\
\end{array}
\]

7) Et notandum quod omnia ista signa vel dicuntur simplicia, ut sunt ista: \(\bigcirc \bigcirc \), vel composita, sicut sunt ista: \(\bigcirc \bigcirc \), vel plusquam composita, sicut sunt ista: \(\bigcirc \bigcirc \), vel adhuc composita et plusquam composita, sicut sunt ista: \(\bigcirc \bigcirc \), et sic de singulis.

8) Et notandum est quod prima signa quae simplicia dicuntur, si sit circulus in ipsis, brevis perfecta valebit tres semibreves. 9) Si autem erit medius circulus, brevis valebit duas semibreves. 10) Si autem sint composita cum
puncto et sit circulus, brevis perfecta valebit tres semibreves et semibrevis perfecta valebit tres minimas.

11) Si sint plusquam composita et si sit circulus, longa valebit tres breves et brevis tres semibreves. 12) Si autem sunt composita et plusquam composita, maxima valebit tres longas, longa tria tempora, et unum tempus, si sit sub circulo perfecto, valebit tres semibreves, et sic in sequentibus de unoquoque signo determinabitur. 13) Et primo de signo minoris perfecti.

14) Signum minoris perfecti sub modo imperfecto, in quo maxima valet duas longas, et longa duas breves, et brevis perfecta tres semibreves, semibrevis vero duas minimas. 15) Et bene dico brevis perfecta, quia sola semibrevis vel illa quae est minor breve imperfectit ipsam brevem; exemplum ut hic: □ □ ◊. 16) Prima est perfecta quia similis ante similem non potest imperfecti.

17) Hoc signum est medium precedentis quod tenet parem numerum, sed de media parte diminuitur, quoniam maxima quae valebit 12 semibreves non valet nisi sex, et longa quae valebit sex semibreves non valet nisi tres, et sic diminuendo alias figuras de dimidia parte secundum tempus, non autem secundum numerum, ut dictum est supra.
18) Signum minoris imperfecti in quo maxima valet duas longas, longa duas breves, et brevis duas semibreves, et semibrevis duas minimas.

19) Signum reverse factum est semper medium sui antecedentis.

20) Istud enim signum aequipollet signo reverse facto.

21) Istud enim signum est per medium signo reverse facto et sic in infinitum.

22) Istud enim signum est signum commune per medium in quo maxima valet quatuor semibreves, et longa duas semibreves, et brevis unam semibreven, semibrevis minimam et minima semiminimam, etc., et hoc quantum ad tempus pronunciationis et non quantum ad numerum.

23) Signum maioris perfecti compositum cum puncto in quo est numerus ternarius in semibrevisbus propter circulum, et ternarius in minimis propter punctum, in quo maxima valet duas longas, et longa duas breves, et brevis perfecta tres semibreves, et semibrevis perfecta tres minimas. 24) Et bene dico perfecta, quia brevis potest imperfecti et semibrevis potest imperfecti; brevis sic, si sola semibrevis sequitur vel minor ea, ut hic: ; brevis autem perfecta dicitur quando similis sequitur vel maior ea, ut hic: , quia similis ante similem non potest
imperfici. 25) Semibrevis imperficitur si sola minima sequatur, ut hic: ♩ ♩; semibrevis vero perfecta dicitur quando similis sequatur vel maior ea, ut hic: ♩ ♩ ♩ ♩, quia similis ante similem non potest imperfici vel ante eius pausam, ut hic: ♩ ------.

26) Et nota quod, si in ista prolatione duae semibreves ponantur inter duas breves absque puncto, secunda illarum alterat et, si duae minimae ponantur inter duas semibreves absque puncto, secunda minima alterat. 27) Exemplum primi: ☐ ☐ ☐ ☐. [Exemplum secundi]: ♩ ♩ ♩ ♩.

28) Et nota super hoc quod omnes figurae possunt perfici et imperfici, excepta minima quae non potest valere nisi duas semiminimas. 29) Cum perfectio constet in numero ternario, sicut maxima, potest imperfici et a parte ante et a parte post, vel a parte post, vel a parte ante, 30) ut patet hic: ♩ ┆ ♩ ┆ ♩ ┆ ♩ ┆ ☐. 31) Et longa potest imperfici similiiter modo dicto, ut hic: ☐ ♩ ┆ q ♩ ┆ ♩ ┆ q ♩. 32) Et brevis non potest imperfici nisi a parte ante solum, vel a parte post solum, ut patet hic: ☐ ☐ ┆ ☐. 33) Sed nota quod semibrevis non potest imperficiere brevem si similis sequatur, quia alloquìn destrueretur illa regula similis ante similem, etc. 34) Sed si sit semibrevis et non habeat locum ante, recipiat locum post primum quem potest habere, ut patet in exemplo: ♩ 3 3 ☐ 3 ☐ ☐ ☐.
35) ☞ Istdud signum est medium sui antecedentis, tenens parem numerum sed de media parte diminutum, quantum ad tempus pronuntiandi, in quo maxima valet sex semibreves et longa tres semibreves, et sic de aliis figuris per medium diminuendo eas. 36) Istdud enim signum tenet easdem regulas sui antecedentis.

37) ◀ Signum maioris imperfecti, in quo est numerus binarius in semibrevibus propter dimidium circulum, et ternarius in minimis propter punctum, in quo maxima valet duas longas, longa duas breves, brevis duas semibreves, et semibrevis perfecta valet tres minimas propter punctum. 38) Et bene dico perfecta, quia propter punctum potest perfici; et si minor ea sequatur, potest imperfecti, ut patet hic in hoc exemplo: ◀ ◀ ◀.

39) In isto enim signo si duae minimae ponantur inter duas semibreves absque puncto, secunda minima alterat, hoc est, valet duas, et nota quod hic non est nisi numerus ternarius in minimis.

40) ◆ Signum istud est medium praecedentis signi, cum omne signum reverse factum sit medium sui antecedentis. 41) Istdud enim signum eundem numerum tenet, sicut signum praecedens, sed diminutum de media parte, hoc est, maxima accipitur pro longa et longa pro brevi.
42) ☀ Istud signum aequipollet signo praecedenti tenendo parem numerum et mensuram.

43) ☀ Istud signum est medium sui antecedentis, sed diminutum de media parte et tenens parem numerum. 44) In isto enim signo maxima accipitur pro brevi, longa pro semibrevi, brevis pro minima cum dimidia, et sic de aliis per medium diminuendo, etc.

45) Omnia autem ista signa tenent pares alterationes in minimis, sicut signa praecedentia.

46) ☀ Signum istud est signum modi perfecti, temporis perfecti et semibrevis imperfectae, in quo maxima valet duas longas, longa perfecta tres breves vel tria tempora, tempus tres semibreves et semibrevis duas minimas. 47) Bene dico brevis perfecta, quia longa potest imperfecti si sola brevis sequatur vel minor ea, et hoc intelligitur in modo perfecto, quando longa valet tria tempora.

48) Et nota super hoc quod duplex est modus, scilicet, perfectus et imperfectus. 49) Modus perfectus est quando longa valet tria tempora sive tres breves. 50) Modus vero imperfectus est quando longa valet dua tempora sive duas breves, et hoc intelligitur circa signa simplicia et illa quae sunt composita cum puncto. 51) Quando vero longa valet tria tempora, intelligitur quando signa sunt composita cum 3 vel cum 2, vel hoc modo: ☀ 3, et sic de singulis.
52) Est enim alter modus qui est compositus cum circulo et duabus 3 3, vel cum circulo et duabus 2 2, et talis modus intelligitur quando maxima valet tres longas, longa tria tempora et tempus tres semibreves et semibrevis aliquotiens tres minimas et aliquotiens vero duas.

53) In isto signo superius dicto, si duae breves ponantur inter duas longas absque puncto, secunda illarum brevium alterat, hoc est, valet duas breves, ut in exemplo isto patet: □ Q Q. 54) Et si duae semibreves ponantur inter duas breves, secunda illarum alterat et hoc absque puncto, quoniam ○ dat ternalitatem brevium et 3 ternalitatem semibrevim. 55) Et eo quod non est punctus est ibi binalitas minimarum, hoc est, semibrevis sub hoc signo valet nisi duas minimas.

56) 3 Istud signum est signum modi perfecti et temporis perfecti et semibrevis imperfectae, hoc est, prolationis imperfectae, in quo est numerus ternarius in temporibus, hoc est, longa valet tres breves, et maxima valet duas longas, et brevis perfecta tres semibreves, et semibrevis duas minimas. 57) In quo signo si duae breves ponantur inter duas longas absque puncto, secunda alterat; et si duae semibreves ponantur inter duas breves absque puncto, et [secunda] alterat. 58) Et longa in hoc signo potest imperfecti per □; et brevis, □, per semibreven, etc.
59) \( \textcircled{C} \) 3 Signum istud est signum modi imperfecti et temporis imperfecti et semibrevis perfectae sive prolationis.  
60) Et super hoc nota quod 3 aliquotiens dat ternalitatem semibrevium, aliquotiens vero ternalitatem minimarum.  
61) Sicut est posita in isto signo, semper dat ternalitatem minimarum, et si sit posita in signo supradicto signato per medium hoc modo, \( \textcircled{D} \) 3, semper dat ternalitatem semibrevium, hoc est, brevis perfecta valet tres semibreves.  
62) In isto signo supradicto, si duae minimae ponantur inter duas semibreves absque puncto, secunda minima alterabit; et in secundo signo, si duae semibreves ponantur inter duas breves absque puncto, secunda semibrevis alterabit.  
63) \( \textcircled{C} \) 3 Istud signum est medium sui antecedentis, tenendo parem modum, excepto quod numerus est hic ternarius in semibrevibus, et superius ternarius in minimis.  
64) \( \textcircled{D} \) 3 Signum istud est signum medium sui antecedentis, hoc est, maxima accipitur pro longa, longa pro brevi, brevis pro semibrevi, etc., et sic diminuendo in infinitum in figuris.  
65) Sequitur aliud signum.  
66) \( \textcircled{C} \) 3 Istud signum est signum modi perfecti, temporis perfecti et semibrevis perfectae, scilicet, prolationis, in quo maxima valet duas longas, longa perfecta tres breves, et brevis perfecta tres semibreves, et semibrevis perfecta tres minimas, in quo si duae breves
ponantur inter duas longas absque puncto, secunda alterabit, et si duae minimae ponantur inter duas semibreves absque puncto, secunda alterabit. 67) Bene dico longa perfecta, quia aliquando longa imperficitur, et similiter brevis et etiam semibrevis.

68) Et nota quod circulus hoc dat ternalitatem temporum sive brevium, 3 vero ternalitatem semibrevium, punctus vero ternalitatem minimarum.

69) 3 Signum istud est medium sui antecedentis, tenendo parem numerum, sed de media parte diminutum, ibi enim maxima non valet nisi longam, 2 vero brevem cum media, brevis semibrevis cum media, et semibrevis 3 cum media.

70) 3 Signum istud est signum modi imperfecti, temporis perfecti et semibrevis perfectae, hoc est, prolationis, est enim signum modi imperfecti propter C, quia C dat binalitatem; est enim perfecti temporis propter 3, quare 3 dat ternalitatem semibrevium et semibrevis perfectae quia punctus dat semper ternalitatem minimarum, hoc est, semibrevis valet tres minimas.

71) Nota quod in hoc signo maxima valet duas longas, longa duas breves, et brevis tres semibreves, et semibrevis tres minimas.

72) Nota etiam quando in isto signo ponantur duae semibreves inter duas breves absque puncto, secunda illarum
alterabit, et si duae minimae ponantur inter duas semibreves absque puncto, secunda illarum minimarum alterabit, hoc est, valebit duas minimas.

73) ☐ 3 Istud signum reverse factum est medium sui antecedentis, cum omne signum reverse factum sit medium sui praecedentis. 74) Istud enim signum tenet parem numerum qualem tenet signum antecedens, sed de media parte diminutum, quoniam maxima accipitur pro longa, longa pro brevi, etc.

75) ☐ 3 Istud enim signum equipollet signo antecedenti reverse facto, tenendo parem numerum et pares alterationes.

76) ☐ [3] Signum istud est medium sui praecedentis, sed tenet parem numerum de media parte diminutum, et tenet pares alterationes.

77) ☐ 2 Signum istud est signum modi perfecti, temporis imperfecti et semibrevis imperfectae, multi enim cantores accipiunt istud signum per medium. 78) Bene dico signum modi perfecti, quoniam ☐ dat ternalitatem temporum, et 2 vero binalitatem semibrevis, hoc est, ☐ valet duas semibreves, et binalitatem minimarum, hoc est, semibrevis valet duas minimas. 79) In isto enim signo maxima valet duas longas, longa tres breves, si sit perfecta, et brevis duas semibreves, ☐ ☐ , et semibrevis duas minimas. 80) In hoc
enim signo, si duae breves ponantur inter duas longas absque puncto, secunda illarum brevium\textsuperscript{47} valebit duas breves, ut hic; \[qq\].

81) \[\text{\textcircled{1}}\, 2\] Istud enim signum est medium sui antecedentis, tenendo parem numerum et pares alterationes, sed de media parte diminutum, ibi enim longa accipitur pro brevi et maxima pro longa, etc.

82) \[\text{\textcircled{2}}\, 2\] Istud enim signum est signum modi imperfecti, temporis imperfecti et semibrevis imperfectae, in quo maxima valet duas longas, longa duas breves et brevis duas semibreves, et semibrevis duas minimas. 83) Istud enim signum vulgariter vocatur signum per medium, quoniam \[\text{\textcircled{2}}\] diminuit de media parte, et ibi maxima accipitur pro longa, longa pro brevi, etc., ibi enim penitus nullae sunt alterationes.

84) \[\text{\textcircled{3}}\, 2\] Signum istud est per medium sui antecedentis, tenendo parem numerum cum signo suprascripto, sed de media parte diminutum.

85) \[\text{\textcircled{4}}\, 2\] Istud enim signum aequipollet cum signo supradicto in valore figurarum et pausarum, etc.

86) \[\text{\textcircled{5}}\, 2\] Istud signum adhuc est per medium sui antecedentis, tenendo parem numerum, sed de media parte diminutum.

\textsuperscript{47}MS: semibrevis.
87) ☀ 2 Istud signum est [signum] modi perfecti, temporis imperfecti et semibrevis perfectae, et bene dico modi perfecti, quoniam longa valet tres breves; et bene dico brevis imperfectae propter 2, quia 2 dat imperfectionem; et semibrevis perfectae, quia in quocumque loco est punctus, ibi semibrevis perfecta valet tres minimas. 88) In isto enim signo, si duae breves ponantur inter duas longas absque puncto, secunda alterabit; et, si duae minimae ponantur inter duas breves absque puncto, secunda alterabit. 89) In isto enim signo maxima valet duas longas, longa perfecta tres breves, et bene dico perfecta, quia sola brevis imperfectit longam, et brevis valet duas semibreves, et semibrevis valet tres minimas. 90) Et nota quod, si duae minimae ponantur inter duas semibreves absque puncto, secunda alterabit.

91) ☀ 2 Istud enim signum est signum per medium sui praecedentis quod tenet parem numerum, sed de media parte diminutum.

92) ☀ 2 Istud enim [est] signum modi imperfecti, temporis imperfecti et semibrevis perfectae, in quo maxima valet duas □□, longa duas□□ et brevis duas semibreves, et semibrevis tres ◊◊◊. 93) Ibi enim, si duae minimae ponantur inter duas semibreves absque puncto, secunda illarum

48MS: alias semibreves add. in marg.
alterabit.\textsuperscript{49} 94) Istud enim signum vulgariter per medium maioris prolationis imperfectae nuncupatur etc.

95) \( \therefore 2 \) Istud enim signum est medium sui antecedentis, sed de dimidia parte diminutum, ibi enim maxima accipitur pro longa, longa pro brevi, etc.

96) \( \because 2 \) Istud enim signum aequipollet cum signo praecedenti tenendo parem numerum et modum.

97) \( \therefore 2 \) Signum istud est adhuc per medium sui antecedentis quod tenet parem numerum, sed de media parte diminutum, etc.

98) \( \because 33 \) Signum istud est signum in quo maxima valet tres longas, longa tres breves, et brevis tres semibreves, et semibrevis tres minimas. 99) Est enim istud signum totum ternarium, scilicet, in longis propter \( \bigcirc \), in brevibus propter primum \( 3 \), in semibrevis propter secundum \( 3 \), et minimis propter punctum. 100) Et nota quod si in isto signo ponantur duae longae inter duas maximas absque puncto, secunda illarum longarum alterabit. 101) Et si duae breves ponantur inter duas longas absque puncto, secunda alterabit. 102) Et si duae semibreves ponantur inter duas breves absque puncto, secunda illarum alterabit. 103) Et si duae minimae ponantur inter duas semibreves, secunda illarum minimarum alterabit absque puncto, etc.

\textsuperscript{49}MS: (alterabit) absque puncto.
104) 3 3 Istud signum est medium sui antecedentis, quod signum tenet eundem numerum, sed de media parte diminutum, hoc est, maxima accipitur pro longa, longa pro brevi, [brevis pro semibrevi], semibrevis pro minima cum dimidia, etc.

105) Istud enim signum tenet pares alterationes, et in longis, et in brevibus, et in semibrevibus, et minimis, et non est alia differentia inter istud signum et aliud signum praecedens, nisi quia istud diminuitur de media parte.


109) Et nota super hoc quod si duae breves ponantur inter duas longas absque puncto, secunda alterabit, et si duae semibreves ponantur inter duas breves absque puncto, secunda alterabit, et si duae minimae ponantur inter duas semibreves absque puncto, secunda alterabit, ut patet in hoc exemplo: \[\text{\textcircled{\textbullet}} \text{\textbullet} \text{\textbullet} \text{\textbullet} | \text{\textbullet} \text{\textbullet} \text{\textbullet} \text{\textbullet} | \text{\textbullet} \text{\textbullet} \text{\textbullet} \text{\textbullet} .

110) 3 3 Signum istud est medium sui praecedentis, quod signum tenet parem numerum cum signo suprascripto, sed
de media parte diminuitur. 111) In ipso enim ponitur maxima pro longa et longa pro brevi, et brevis pro \( \frac{1}{2} \)\), etc.

112) \( \checkmark \) 3 3 Signum istud aequipollet signo praecedenti, in quo signo maxima valet \( \checkmark \) et longa \( \Box \), etc.

113) Istud enim signum tenet pares alterationes.

114) \( \checkmark \) 3 3 Signum istud est medium sui praecedentis, in quo maxima accipitur pro longa, et longa pro \( \Box \), brevis pro \( \Diamond \), et semibrevis pro minima, \( \checkmark \), cum dimidia, etc.

115) \( \checkmark \) 2 2 Istud signum est [signum] modi perfecti respectu maximae, in quo maxima valet tres longas, et longa duas breves, et brevis duas semibreves, et semibrevis tres minimas. 116) Bene dico maxima valet tres \( \checkmark \checkmark \checkmark \), propter \( \checkmark \), et longa duas breves propter primum \( \checkmark \checkmark \), propter secundum \( \checkmark \checkmark \), et semibrevis tres minimas propter punctum, quia punctus denotat ternalitatem minimarum, hoc est, semibrevis perfecta valet tres minimas. 117) Et nota quod in isto signo, si duae \( \checkmark \checkmark \) ponantur inter duas\(^{50}\) maximas absque puncto, secunda illarum alterabit, et si duae minimae ponantur inter duas semibreves absque puncto, secunda illarum minimarum alterabit, ut hic patet: \( \checkmark \checkmark \checkmark \checkmark \checkmark \).

\(^{50}\text{MS: longas (maximas, secunda illarum alterabit absque puncto).}\)
118) 2 2 Istud signum est medium sui antecedentis, in quo maxima accipitur pro longa, longa pro □, et brevis pro semibrevi, etc. 119) Et nota quod in isto signo fiunt pares alterationes, sicut in signo praecedenti.

120) 2 2 Istud signum est signum modi imperfecti, in quo maxima valet duas longas propter C, longa duas breves propter [primum] 2 et brevis duas semibreves propter secundum 2, et semibrevis tres propter punctum. 121) Istud enim signum potest accipi pro duplici medio eo quod sunt duo 2 2. 122) Et nota quod si duae minimae ponantur inter duas semibreves, secunda minima alterabit, et hoc absque puncto.

123) 2 2 Istud signum est medium sui antecedentis, in quo maxima accipitur pro longa, □ pro brevi, etc. 124) Istud enim signum tenet pares alterationes sicut signum praecedens.

125) 2 2 Istud enim signum aequipollet signo praecedenti tenendo parem numerum et parem modum sicut signum praecedens, et pares alterationes, etc.

126) 2 2 Istud enim signum est medium sui antecedentis, sed tenet parem numerum sicut signum suprascriptum, sed de media parte diminutum.

127) 3 3 Signum istud est signum modi perfecti, in quo maxima valet tres longas propter □, longa tres breves
propter primum 3, et brevis tres semibreves propter secundum 3, et semibrevis duas minimas eo quod non est punctus.

128) Et nota quod si duae \(\hat{\aleph}\) ponantur inter duas maximas absque puncto, secunda alterabit. 129) Et si duae breves ponantur inter duas longas, secunda illarum alterabit, et hoc absque puncto. 130) Et si duae semibreves ponantur inter duas breves absque puncto, secunda alterabit.

131) \[\hat{\neg}\] 3 3 Istud signum est medium sui antecedentis, quod signum tenet eundem modum, sed de media parte diminutum, quoniam maxima accipitur pro longa et longa pro brevi. 132) Tenet etiam pares alterationes.

133) \[\hat{\aleph}\] 3 3 Signum istud est [signum] modi imperfecti in maximis, hoc est, maxima valet duas longas, et modi perfecti in temporibus propter primum 3, hoc est, longa perfecta valet \(\square\) \(\square\) \(\square\), et brevis tres semibreves propter secundum 3. 134) Et nota quod si duae breves ponantur inter duas longas absque puncto, secunda alterabit. 135) Et si duae semibreves ponantur inter duas breves absque puncto, secunda alterabit, et non de minimis, quia non est punctus.

136) \[\hat{\neg}\] 3 3 Signum per medium, quod signum tenet eundem numerum, sed de media parte diminutum, quoniam maxima accipitur pro longa et longa pro brevi, etc.
137) $\triangle$ 3 3 Istud signum reverse factum est medium signi praecedentis, tenendo parem numerum, sed de media parte diminutum.

138) $\bigcirc$ 2 2 Istud est signum modi perfecti in maximis, hoc est, maxima valet tres longas, et modi imperfecti in longis, hoc est, longa valet duas breves, et modi imperfecti in brevibus, hoc est, brevis valet duas semibreves, et modi imperfecti in semibrevibus sive in prolatione, hoc est, semibrevis valet duas minimas.

139) Et nota quod si duae longae reperiantur inter duas maximas absque puncto, secunda alterabit, ut hic patet:

\[ \square \]

140) De aliis autem figuris non est sic, quoniam sunt omnes imperfectae, eo quod perfectio non consistit in numero binario, ut hic: 2 2, et semibrevis in hoc signo imperfectur, hoc est, non valet nisi duas minimas, quia ibi non est punctus in circulo, etc.

141) $\bigcirc$ 2 2 Istud signum est medium antecedentis, tenens parem numerum et pares alterationes, sed de media parte diminutum.

142) $\Box$ 2 2 Signum istud est signum modi imperfecti in maximis, et modi imperfecti in longis, $\square$ [ $\square$ ] et modi imperfecti in brevibus, $\square$ $\square$, et modi imperfecti in semibrevibus, $\diamond$ $\diamond$, hoc est, maxima valet duas longas, ut hic
patet: — q q, et longa duas breves, ut hic: q ö ö, et brevis duas semibreves: ö ö, et semibrevis duas minimas, etc. 143) Ibi penitus nulla est alteratio quia C dat binalitatem et similiter primum 2 et secundum 2 similiter, et imperfect semibrevis, quia ibi non est punctus qui denotat ternalitatem minimarum, et hoc signum potest dici plusquam medium propter duo 22 et semicirculum, etc.

144) ö ö ö Signum istud est medium sui antecedentis, quod signum tenet eundem numerum, sed de media parte diminutum, hoc est, ö accipitur pro q, etc.

145) ö ö ö Istud signum est simile et aequipollet signo praecedenti, etc.

146) ö ö ö Signum istud est medium sui antecedentis, tenendo parem numerum, sed de media parte diminutum.

147) Et haec de prolatione et signis dicta sufficiant, etc.
1) Regula circa cognitionem syncoparum.

2) Nota quod si cantus firmus se invicem sequatur ascendendo de riga in spatium, vel e converso, et ascendat x, xii notas gradatim, tunc debemus facere per tertiam bassam et quartam, quod idem est dicere per sextam et quintam altas, et hoc est verum ascendendo. 3) Descendendo vero debemus syncopare per tertiam bassam et secundam, quod est dicere per sextam et septimam altas, ita quod penultima minima sit sexta veniendo postea ad unisonum, quod idem est quam octava, ut patet per exemptum:

Ex. 66:

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51f. 42v.

52MS: quod.
IX

1) **Sequitur de tonis**

2) *Tonus, prout hic sumatur, est quaedam regula quae in omni cantu diiudicat et bene dico in omni cantu sive firmo sive figurato.*

3) *Secundum enim beatum Gregorium octo sunt toni, quia sicut in Curia caelesti dignum est Christum laudare per octo beatitudines, ita in Curia terrestri dignum est Ipsum Christum laudare per octo tonos. 4) Quorum tonorum quatuor sunt magistri, quatuor vero discipuli. 5) Quatuor magistri secundum Graecos sic appellati sunt: Protusautentus, deuterus autentus, tritus autentus et tetrardus autentus. 6) Est enim dicere protus autentus sicut primus tonus magister, deuterus vero autentus secundus tonus magister, tritus autentus tertius tonus magister, et tetrardus autentus quartus tonus magister.*

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53f. 43r.

54MS: Tropus.

55MS: denturus.

56MS: depiratus.

57MS: tropus.

58MS: denturus.

59MS: depiratus.
7) Isti enim quatuor toni magistri a Graecis fuerunt inventi et quatuor autem discipuli a Latinis, quoniam primus discipulus suam sumit originem a primo tono magistro Graeco, secundus vero discipulus suam sumit originem a secundo tono magistro Graeco, tertius vero discipulus suam sumit originem [a tertio tono magistro Graeco, quartus vero discipulus suam sumit originem] a quarto tono magistro Graeco. 8) Quare sequitur modo debito esse octo tonos tam magistros quam discipulos, qui secundum nos vocantur primus, secundus, tertius, quartus, quintus, sextus, septimus et octavus.

9) Nota quod isti octo toni multipliciter cognoscuntur, aliquotiens enim cognoscuntur per ascensum et descensum ipsorum, cognoscuntur enim aliquotiens per sua principia, aliquotiens vero per suas mediationes, aliquotiens vero per suos fines, aliquotiens vero per sua seculorum. 10) De omnibus autem istis determinabitur in sequentibus.

11) Nota de ascensu et descensu.

12) Secundum beatum Gregorium, qui auctor fuit totius cantus firmi, nota quod isti octo toni dispartiuntur in magistros et discipulos, et vult ipse doctor quod toni magistri non possunt ascendere ultra octo puncta supra fines,

60 Addition from context.

61f. 43v.
ita quod descendant unum punctum subtus fines, sed bene vult dictus doctor quod ad minus tonus magister ascendat quintam, ut patet in suis effectibus. 13) Bene vult dictus doctor sanctus quod toni magistri aliquiotiens descendant quartas voces subtus fines et ascendant sex vel septem punctos supra fines, ut patet in illo Introitu, De ventre matris meae, qui Introitus dicitur in festo sancti Johannis Baptistae, et assignat talem rationem naturalem dictus doctor quoniam ut aliquando contingit naturaliter ascendere, per placentiam tamen aliquando accidit aliquantulum descendere; sic toni magistri de eorum natura debent ascendere, sed per placentiam ipsorum possunt descendere, non diminuendo ascensum eorum.

14) De discipulis autem non sic est, quoriam discipuli naturaliter descendunt, sed non possunt ascendere. 15) Et nota quod secundum beatum Gregorium isti toni discipuli non possunt naturaliter ascendere nisi quartam vocem supra fines et descendunt quatuor vel quinque punctos subtus. 16) Bene verum est quod aliquiotiens secundum beatum Gregorium tonus discipulus potest per licentiam ascendere usque ad sextam vocem, sed hoc raro.

17) Sequitur de opinione aliquorum de ascensu et descensu tonorum, etc.

<sup>62</sup>MS: descendere.

<sup>63</sup>MS: (licentiam) aliquiotiens.
18) \textit{Opinio aliquorum de ascensu et descensu tonorum.}

19) Nota quod secundum aliquos toni magistri possunt ascendere usque ad decimam vocem supra fines suos, ita quod descendant quatuor punctos subtus fines suos. 20) Istit enim potest intelligi in cantu figurato sive organico vel in cantu prosaico sive prosarum, hoc est, sequeniarum, et non in cantu firmo Gregoriano, ut patet per versum, et hoc de tonis magistro:

21) Sep, quin, ter decimam, prima vocem decimam,
22) Quorumque finem subtus ordinat unus punctus, etc.
23) Sequuntur versus de discipulis.
24) Versus de discipulis.
25) Se dic sextam cum ceteris supra finalem notabis,
26) Quorumque finem subtus ordinat quartus punctus.

27) \textit{Sequitur opinio aliorum.}

28) Istit autem toni magistri secundum aliquos ascendunt novem puncta supra finem, qui tales appellant dictos tonos magistros impares, sicut sunt primus, tertius, quintus, septimus, ita quod descendant unum punctum subtus fines. 29) Discipuli autem secundum illos possunt ascendere usque ad

\textit{f. 44r.}

\textit{f. 44v.}
septomam vocem, ita quod descendant quatuor voces subtus fines suos, ut patet per versum de tonis magistris:

30) Impar scandit nonus, descendit ad imum.

31) De tonis discipulis.

32) Par scandit septimas, quartas descendit ad sedes\(^6\).

33) Et sic de ascensu et descensu tonorum dicta sufficiant.

34) Octo autem toni possunt cognosci per sua principia, ut patet per versus sequentes:

35) Primus cum sexto fa sol la semper habeto;

36) Tertius et octavus ut re fa sicque secundus;

37) La sol la quartus, ut mi sol sit tibi quintus;

38) Septimus fa mi fa sol, sic omnes esse recordor.

39) Sequitur declaratio istorum versuum.

40) Sententia enim istorum versuum talis est, quod primus et sextus toni in hoc conveniunt, quod principiantur similì modo, hoc est, per istas tres voces, fa sol la, fa existente in F fa ut gravi naturaliter. 41) Tertius vero et octavus et secundus in hoc conveniunt, quia principiantur per istas tres voces, ut re fa, sed aliter et aliter quoniam ut re fa secundi toni inchoatur in C fa ut gravi, ut re fa vero tertii tonii et octavi tonii inchoatur in deductione secunda \(\text{b} \)
quadraati, quae vocatur G sol re ut grave. 42) Quartus vero tonus suum assumit principium per istas tres voces, la sol

\(^6\)MS: aedes.
la, la existente in A la mi re aucto. 43) Quintus vero tonus suum assumit principium per ut mi sol, ut existente in F fa ut gravi et hoc per b molle. 44) Septimus vero tonus suum assumit principium per istas quatuor voces, fa mi fa sol, fa existente in C sol fa ut acuto per 1 quadrum.

45) Sequitur de mediationibus ipsorum tonorum, de quibus tales dantur versus:

46) Septimus et sextus dant fa mi re mi, quoque primus;
47) Quintus et octavus dant fa sol fa, sic et secundus;
48) Sol fa mi fa ternus, ut re mi re quoque quaternus.

49) Sententia enim istorum versuum talis est, quod septimus tonus et sextus et primus in hoc conveniunt, quia mediantur per istas quatuor voces, fa mi, re mi, sed aliter et aliter quoniam septimus tonus accipit suum fa in F fa ut acuto, primus vero et sextus toni accipiunt suum fa in B fa 1 mi acuto et hoc per b molle. 50) Et super hoc notandum quod primus et sextus toni conveniunt in suis principiis et in suis mediationibus, differunt autem in fine, ut videbitur, sive in sua seculorum. 51) Quintus vero et octavus et secundus toni in hoc conveniunt, quoniam mediantur per istas tres voces, scilicet, fa sol fa, sed aliter et aliter quoniam quintus et octavus accipiunt suum fa in C sol fa ut acuto,
secundus vero tonus accipit suum fa in F fa ut gravi. 52) Tertius vero tonus suam facit mediationem per istas quatuor voces, sol fa mi fa, accipiendo suum sol in D la sol re acuto. 53) Quartus vero tonus suam facit mediationem per istas quatuor voces, ut re, mi re, accipiendo illud ut in G sol re ut gravi et hoc per ☐ quadrum, et sic de mediationibus ipsorum tonorum dicta sufficiant.

54)68 Sequitur de fine tonorum.

55) Nota quod finis istorum tonorum potest esse multiplex, scilicet, finis naturalis sive regularis et finis non naturalis sive irregularis, de quo fine dantur versus per ordinem. 56) Et primo, de fine regulari sive naturali:

57) Finem cunctorum cantor dignoscet tonorum,
58) Nam finem primi D continet atque secundi,
59) Tertius E regit, qui quarti finis habetur;
60) Quintus F finem sextus quoque ponit eundem,
61) Septimus et octavus in sola G requiescunt.

62) Sententia enim istorum versuum talis est, quod primus et secundus toni finiuntur in D gravi, scilicet, in D sol re, et hoc naturaliter. 63) Tertius vero et quartus finiuntur in E la mi gravi naturaliter. 64) Quintus vero et sextus finiuntur in F fa ut, scilicet, in F fa ut

68f. 45v.
naturaliter. 65) Septimus vero et octavus finiuntur in G sol re ut gravi naturaliter sive regulariter.

66) Sequuntur alii versus de fine irregulari, etc.

67) Sit in A primi pariter finisve secundi,

68) Tertios B iunges quartumque non excludes,

69) Sub C fundat quintum\(^{69}\) iunctoque sibi sexto,

70) D subdit septimum addensque sibi octavum.

71) Sententia enim istorum versuum talis est, quod primus et secundus toni irregulariter sive non naturaliter finiuntur in A la mi re acuto, et hoc per quadrum. 72) Tertius vero et quartus finiuntur irregulariter sive non naturaliter in B fa b mi acuto, et hoc \([per]\) b quadrum. 73) Quintus vero et sextus finiuntur irregulariter sive non naturaliter in C sol fa ut acuto. 74) Septimus vero et octavus finiuntur in D la sol re irregulariter, et haec de fine irregulari sufficiant.

\(^{69}\) MS: quintus.
75)⁷⁰ Sequuntur alii versus.
76) De fine tam regulari quam irregulare simul et de quadam exceptione quarti toni:
77) Sunt in D vel in A primus tonus atque secundus;
78) Tertius et quartus in E vel in B reperiuntur;
79) Sed quandoque per A quartum finiri vidimus,
80) Tunc per B molle locatus;
81) Quintus cum sexto in F vel in C locuntur,
82) Septimus et octavus in G vel in D requiescunt.
83) Sententia enim istorum versuum talis est, quod primus et secundus toni regulariter sive naturaliter finiuntur in D sol re, irregulariter vero et non naturaliter in A la mi re acuto. 84) Tertius vero et quartus regulariter sive naturaliter finiuntur in E la mi gravi, irregulariter vero sive non naturaliter finiuntur in B fa♭ mi acuto, sed aliquotiens vidimus quartum tonum finiri in A la mi re acuto, sed tunc dicitur mi in A la mi re per b molle, et tenere debet tunc temporis dictus quartus tonus mediationem propriam suam, scilicet, in D la sol re, dicendo re ut re mi re. 85) Quintus vero et sextus toni naturaliter finiuntur in F fa♭ gravi, innaturaliter vero sive irregulariter finiuntur⁷¹ in C sol fa ut acuto. 86) Septimus vero et octavus regulariter

⁷⁰f. 46r.

⁷¹MS: finiunt.
sive naturaliter finiuntur in G sol re ut gravi, innaturaliter vero sive irregulariter in D la sol re acuto, et sic de fine toni regulari quam irregulari dicta sufficiant.

87) Sequuntur alii versus ad cognoscendum tonos per sua seculorum et sunt uti subsequentes:

88) Pri re la, se re fa, ter mi fa, quater quoque mi la,

89) Quin fa fa, sex fa la, sep ut sol, oct tenet ut fa.

90) Sententia enim istorum versuum est talis, quod si primus tonus sive antiphona vel responsorium vel introitus primi toni finiuntur in re, eius vero seculorum inchoatur per quintam vocem, quae vox dicitur la. 91) Se, id est, secundus, tonus vel antiphona vel responsorium vel introitus secundi toni finiuntur in re, eius vero seculorum inchoatur per tertias voces, licet, tertiam vocem, quae dicitur fa.

92) Tertius vero tonus vel antiphona, etc., si finiuntur in mi, tunc eius vero seculorum inchoatur per sextam vocem, quae dicitur fa. 93) Quartus vero tonus vel antiphona, etc., si finiuntur in mi, eiusmod seculorum inchoatur per quartam vocem, quae dicitur la. 94) Quintus vero tonus vel

72f. 46v.
antiphona, etc., quinti toni, si finiuntur in fa, eius vero seculorum inchoatur per quintam vocem, quae dicitur fa per quadrum. 95) Sextus vero tonus vel antiphona vel responsorium sexti toni, si finiuntur in fa, eius vero seculorum inchoatur per tertiam vocem altam, quae dicitur la. 96) Septimus vero tonus vel antiphona vel responsorium vel introitus, etc., septimi toni, si finiuntur in ut, eius vero seculorum inchoatur per quintam supra, quae dicitur sol. 97) Octavus vero tonus vel introitus vel antiphona, etc., octavi toni, si finiuntur in ut, eius vero seculorum inchoatur per quartam vocem supra, quae dicitur fa.
Ex. 67-1:
98) Et sic est finis, sit laus et gloria trinis, etc.
Part II: English Translation

1) Here begins auspiciously a concise booklet concerning the precepts of the theory and practice of music by Guilielmus Monacus, a most skilled singer and a most learned man.

I 2) Note that prolation is two-fold, namely, major and minor. 3) Major is divided into perfect and imperfect, minor similarly into perfect and imperfect.

4) Note that wherever there is a punctus, therein is the sign of major prolation, whether perfect or imperfect, and there is a ternary number in minimis. 5) And wherever there is no punctus, therein is the sign of minor prolation, whether perfect or imperfect. 6) And these are the signs as follows:

Ex. 1:

\[ \text{\includegraphics{music_notes}} \]
7) Note that there are many other signs composed from these, just as from more fundamental ones, concerning which we shall treat at length below in our treatise on organal melody, concerning both their values and alterations, etc.

8) $\bullet$ is the sign of the perfect [tempus], major [prolation], in which there is a ternary number in semibreves, $\diamond \diamond \diamond$; that is a perfect breve, $\square$, is worth three semibreves, $\diamond \diamond \diamond$; and a semibreve, $\diamond$, [is worth] three minims, $\langle \langle \langle$, as is seen here: $\square | \diamond \diamond \diamond ; \diamond | \langle \langle \langle$.

9) A maxima under this sign, $\overline{\square}$, is worth two $\bullet \bullet$; $\bullet$ is worth $\square \square$; $\square$ is worth three semibreves, $\diamond \diamond \diamond$; $\diamond$ is worth three $\langle \langle \langle$; and $\overline{\square}$ is worth twelve semibreves; an imperfect $\square$ is worth two $\diamond \diamond$; and an imperfect semibreve is worth $\langle \langle \langle$ by means of the punctus.

10) $\odot \odot$ is the sign of imperfect [tempus], major [prolation], in which there is a binary number in semibreves; that is, a breve, $\square$ is worth two semibreves; $\diamond \odot$; and a semibreve is worth three minims, as is seen here: $\square | \diamond \diamond \diamond ; \diamond | \langle \langle \langle$.

11) $\bigcirc$ is the sign of perfect [tempus], minor [prolation], in which there is a ternary number in semibreves; that is, a perfect breve is worth three semibreves, and a semibreve is worth two minims, as is seen here: $\square | \diamond \diamond \diamond ; \diamond | \langle \langle \langle$. 
12) And note that a breve cannot be imperfected unless a smaller note follows it, according to the rule that like before like can not be imperfected, as here: □□◊.

13) ☐ is the sign of imperfect [tempus], minor [prolation], in which there is a binary number in semibreves; that is, a breve is worth two semibreves, and a semibreve is worth two minims. 14) Note that all signs reversed are made half of their antecedents, as is shown in the following signs: ☐ ☐ ☐ ☐.

15) Moreover, all these four signs have been halved, namely, these: ☐ ☐ ☐ ☐.

16) Note that there are five principal figures, namely, maxima, □□□, longa, □, breve □, semibreve, ◊, and minim, ◊. 17) Moreover, the semiminim and half-semiminim are derived out from the minim: as is clear below:

18) Note that there are five [principal] rests, namely, the rest of a maxima, the rest of a longa, the rest of a breve, the rest of a semibreve, the rest of a minim, the rest of a semiminim, etc., as is made clear below:

Ex.2:
19) Note that there are three tails by which figures are recognized, thus: a tail extending from the right side, which is always a longa or maxima: \[\text{\textbullet\textbullet}\]
20) A tail extending from the left side downwards, which is a breve. Example: \[\text{\textbullet\textbullet}\]
21) And a tail extending from the left side upward, which is always a semibreve, as is seen here: \[\text{\textbullet\textbullet}\]
22) Note that there are two puncti, namely, one of augmentation and one of division. 23) [A punctus of] augmentation is that which augments a figure by a third part, as for example the maxima, which is worth twelve semibreves, with a punctus is worth eighteen. 'And the punctus always augments by a third part, as is obvious here: \[\text{\textbullet\textbullet}\]
24) A punctus of division, however, is that which divides figure from figure, which punctus, however, is not performed, as here: \[\text{\textbullet\textbullet}\]. 25) And note that no punctus is said to be [a punctus of] division that may in fact be one of reduction, which is said by some to be "reportationis" (one of carrying back), because in such way as it divides figure from figure, it therefore leads figure back to figure, etc.
26) Note that there are five letters or signs through or by means of which all organum is understood, namely: \(\text{\textbullet\textbullet}\)
27) For instance, ☐ alone denotes a group of three semibreves, that is, a breve is worth three semibreves. 28) And note beyond this that all figures can be perfect and imperfect.

29) Note that a single semibreve and minim imperfect all figures, either a parte ante, or a parte post, or a parte ante and a parte post simultaneously.

30) ☐, in fact, denotes a group of two semibreves. 31) A maxima, □, under this sign, is worth eight semibreves; a longa, □, is worth four semibreves; a breve, □, is worth two semibreves, and a semibreve two minims, etc.

32) A punctus *, always denotes a group of three minims.

33) ½ signifies "half", or diminution by a third part.

34) ¾ sometimes denotes a group of three minims and sometimes signifies a group of three semibreves, etc.

Ex.3:*
35) When like is before like; it cannot be imperfected.

Ex. 4:

* Seay misreads this diagram of relationships as

36) \( \frac{1}{2} \) is always \( \frac{1}{2} \).

37) All black figures, be they in modus, prolation, tempus or proportion, are diminished by a third part. For example, a maxima that is worth twelve semibreves is worth only eight when it is blackened, and thus concerning the remaining figures, as is seen here:

Ex. 5:

38) And note that if in ternary prolation [tempus perfectum] --, namely, \( \bullet \) -- if two semibreves are placed without a punctus between two breves, the second of them alters, that is, it is worth two semibreves, as is seen here:
39) And in perfect and imperfect [tempus], major [prolation], if two minims are placed between two semibreves without a punctus, similarly that the second minim alters, as here:

Ex. 7:

40) Note that number is two-fold, namely ternary, which is perfect, and binary which is imperfect.

41) Note that there are three signs that serve in perfect number, namely, \( \circ \circ \text{3} \), and there are two signs serving in binary number, namely these: \( \text{C} \text{2} \text{C} \).

42) Note that there are two tempora, namely, perfect and imperfect, that is, there are two breves, namely, perfect and imperfect. 43) They are perfect when they are worth three semibreves, imperfect when they are worth two semibreves.

44) Tempus is perfect when there is a ternary number; tempus is imperfect, however, when there is a binary number, as this shows:
Ex. 8:

\[ \begin{array}{c}
\text{O} & \text{O} & \text{O} & \text{C} & \text{O} & \text{O} & \text{O} \\
\end{array} \]

45) Modus is two-fold, namely, perfect and imperfect.

46) Modus is perfect when the longa is worth three breves.

47) Modus is imperfect, however, when the longa is worth two breves, from which we understand this.

48) Note that figures can varied: maximas, longas.
II 1) What follows concerns the diversity of figures,

2) First concerning maximas; and then concerning the remaining ones:
Ex. 9: 

3) A head without a tail is said to be a longa, and the last, descending downward, is also said to be a longa:
Ex. 10:* 

* The first ligature in the manuscript should be changed to .

4) Note that if there be three [notes] ligated so that the first is a semibreve having a tail ascending from the left side, as here: , and [if] it be in ternary number, as for example: , the first is a semibreve, the second is an imperfect breve, the third a perfect breve, the fourth,
similarly, a breve, the fifth and last, hanging down, is said to be a longa. 5) If, however, it be in binary number, the first is a semibreve and the second likewise; the third, however, is always a breve, the fourth likewise a breve and it is worth only two semibreves; and the last is a longa that is worth only four semibreves, etc.

6) Note that the punctus of a maxima is worth as much as a longa, punctus of a longa as much as a breve; the punctus of a breve is worth as much as a semibreve, the punctus of semibreve as much as a minim; and the punctus of a minim is worth as much as a semiminim, and the punctus of a semiminim is worth as much as a half-semiminim and thus proceeding into infinity, diminishing in puncti, etc.

7) Concerning the ligatures of all figures and their diversity,

8) First concerning maximas, and after that concerning others, as is clear below:
Ex. 11:

* The last ligature \( \flat \) in the second measure and the first ligature \( \natural \) in the seventh measure in the manuscript should be changed to \( \natural \) and \( \flat \), respectively.
III 1) **Proportion is of various types.**

2) There are five species of proportions of greater inequality, namely, three simple species and two composite ones. 3) The simple species are the multiplex, superparticular and superpartiens proportions. 4) The composite ones are multiplex superparticular and multiplex superpartiens proportions.

5) Proportion is said to be multiplex when the larger [term] contains the smaller one exactly several times, such as the proportion of two to one. 6) And if the larger [term] contains the smaller one exactly two times, it is called duple, as for example [the proportion] of two to one. 7) If, however, it contains [the smaller term] exactly three times, it is called triple proportion, such as three to one, and if four, it is called quadruple, such as four to one, and so on into infinity.

8) A proportion is superparticular when the larger [term] contains the smaller once and no more, and together with this an aliquot part of the smaller [term], such as the proportion three to two, where three contains two, and with this unity, which is an aliquot part of two.

9) Upon ascertaining that the larger [term] contains the smaller only once and no more, and with this an aliquot part
of the smaller, it should then be determined whether that aliquot part is half of the smaller [term]. If so, the proportion is called sesquialtera, such as the proportion of three to two. 10) If, however, [the aliquot part] is a third part of the smaller [term], then it is called a sesquitertia proportion, such as the proportion which is four to three and [that which is] eight to six. 11) If, [the aliquot part] is a fourth part of the smaller [term], then it is called sesquiquarta, such as five to four and ten to eight. 12) If, [the aliquot part] is a fifth [part of the smaller term], it is called a sesquiquinta proportion, and so on into infinity. 13) And note that an aliquot part is that which, when taken several times, renders its whole [term] exactly, as for example three compared to six, in which three taken twice renders six exactly.

14) A non-aliquot part, on the other hand, is that which, when taken several times, does not render its whole [term] exactly, as for example two compared to five, in which two taken twice renders less than five; 15) if, [it is taken] three times, it renders more.

16) A proportion is superpartiens when the larger [term] contains the smaller once and no more, and with this another part not an aliquot of the smaller [term], but composed of aliquot parts of the smaller [term], as for example the
proportion five to three, where five holds three once, and with this the number two, which is not an aliquot part of the number three, even though it contains in itself two of its aliquot parts, namely, unities.

17) Upon ascertaining how the larger [term] contains the smaller only once and no more, and with this a part not an aliquot of the smaller [term], but composed of aliquot parts of the smaller, it should then be determined concerning the non-aliquot part how many aliquot parts of the smaller term it contains in itself. Whence if it contains two, it is called a superbipartiens proportion, such as the proportion five to three. 18) If, however, it contains three, it is called a supertripartiens proportion, such as the proportion eight to five. 19) If, however, it contains four, it is called a [super]quadripartiens proportion, such as the proportion nine to five, and so on into infinity.

20) Thereupon, having ascertained this, in order to acquire a more specialized understanding it should be determined how those aliquot parts compared to the smaller [term] are related, whether they are thirds, or fourths, or fifths, or sixths.

21) If they are thirds, it is called a superpartiens tertias proportion. 22) If, however, they are fourths, it is called a superpartiens quartas proportion, and so on into
infinity. 23) From these the name of a specific superpartiens proportion can be chosen. 24) Hence, if the larger [term] contains the smaller [term] once, and with this a non-aliquot part of it that contains in itself two aliquot parts of the smaller [term], of which each is a third part of that smaller term, then such a proportion is called superbipartiens tertias, as for example the proportion five to three. 25) If, however, the larger [term] contains the smaller [term] once, and with this a non-aliquot part of the smaller that contains in itself three aliquot parts of the smaller [term], of which each is a fourth part of that term, then it is called a supertripartiens quartas proportion, such as the proportion seven to four. 26) If, however, the larger [term] contains the smaller once, and with this a non-aliquot part that contains in itself three aliquot parts of the smaller [term], of which each is a fifth [part] of that smaller [term], then it is called a supertripartiens quintas, such as eight to (five). 27) And thus it should be understood proportionally concerning the others.

28) If, however, the larger [term] contains the smaller one several times, and with this something in addition that is an aliquot part of the smaller [term], then it is called multiplex superparticular proportion, such as the proportion five to two, and species of it are duple sesquialtera and
triple sesquialtera.  29) Hence, if the larger [term] contains the smaller [one] two times and with this an aliquot part, and that aliquot part should be a half of the smaller [term], it is called duple sesquialtera, as for example five to two. 30) If, however, [the larger term contains the smaller one] two times, and with this an aliquot part that is a third part of the smaller [term], it is called duple sesquitertia proportion, such as the proportion of seven to three, and so on.

31) If the larger [term] contains the smaller [one] several times, and with this something in addition that is not an aliquot part of the smaller [term], it is called multiplex superpartiens, as for example the proportion eight to three. 32) And if the larger [term] contains the smaller two times, and with this a non-aliquot part containing in itself two aliquot [parts] of the smaller [term], it is called superbipartiens duple, as for example, eight to three. 33) If, however, each of those aliquot parts is a third part of the smaller [term], it is called duple superbipartiens tertias, as for example eight to three, because eight contains three two times, and with this a non-aliquot part of it, namely, two, which contains two aliquot parts of the smaller [term]. 34) Whereby each of these parts is a third part of the smaller term, namely, three and so on,
proportionally; we must therefore mention the other species of multiplex superpartiens proportion, combining multiplex with superpartiens, according to those things that have been said apart from multiplex and superparticular proportion.

35) It should be observed that for understanding as many species of proportions of lesser inequality, it is useful to add to the above-mentioned names and species the submultiplex, [sub]superparticularis, and [sub]superpartiens to be discussed below. 36) Hence the essence of the previous statements should be understood thus:

37) Every larger [term] compared to another, smaller one has a rational proportion in relation to it. Either it contains the smaller [term] several times and nothing in addition, or once and something in addition, or several times and something in addition. 38) If it is the first of these, it is a multiplex proportion; if it is the second, it is of two possible types: Either that which is in addition is an aliquot part of the smaller [term] and thus it is a superparticular proportion, or it is a non aliquot part containing two times in itself only equal aliquot parts of the smaller [term], and thus it is a superpartiens proportion. 39) If it is said to be a third type, then that which is contained in addition is either an aliquot part of the smaller [term] and thus it is a multiplex superparticular
proportion, or it is a non aliquot part of the smaller [term] related in the manner discussed above, and thus it is a multiplex superpartiens proportion. 40) And these words should suffice.

41) There follow several proportions of diverse prolations notated in examples for acquiring a more ready understanding of them. First concerning sesquialtera in perfect [tempus] minor [prolation], etc, as is presented in the following folio:

42) Sesquialtera in perfect [tempus], minor [prolation] requires that minims be numbered in threes just as minims of imperfect tempus, major [prolation] are numbered, and in the same way minims are altered before semibreves, and at the same time semibreves before minims are imperfected. Three minims are put in place of the single ictus of a common semibreve rest, in which measures of imperfect tempus or minor perfect tempus are paused, and they are sung in the same way as imperfect tempus major prolation itself, as is seen in the example below:
The fourth note in the third measure of the upper part is an altered minim. The dots that appear in the manuscript are points of division except the last dot that appears after the sixth note from the end of the upper part. The third note of measure 3 and the second note of measure 6 in the tenor part are altered minims. In order to cancel the previous sesquialtera proportion, the mensuration sign \( \Box \) should be inserted four measures before the end of the tenor. Three semibreves under the sign 3 (sesquialtera proportion) are equal in duration to two semibreves under the sign 0.

43) According to certain authors, black sesquialtera in perfect [tempus], minor [prolation], requires that semibreves
be numbered in twos, and that the number end in six. 44) According to others, however, it requires that minims be numbered in threes, and does not differ from white, except that here notes are made black in place of the sign of a white sesquialtera, and minims are altered in the same way, and likewise sung, as is clear in the following examples:

Ex. 13:*

* The dot after the tenth note in the tenor of this example in Seay's edition is a semibreve rest, as appears in the manuscript. The black semibreve after the white ligature in measure 10 of the tenor should be changed to a white semibreve.
Ex. 14:

* The last note of measure 6 in the upper part should be changed from a black minim to a black semiminim. The dots after the second note from the end of the tenor part, and the second note in measure 7 of the upper part, are points of augmentation.

45) Sesquialtera in semi [i.e. Alla breve] or in imperfect mode or in duple imperfect [tempus], minor [prolation] requires that semibreves be numbered in threes; but, if black semibreves are inserted, they are numbered in twos, number ending in six. 46) The semibreves, moreover,
are sung just as minims of that sesquialtera which is in perfect minor; semibreves are also altered before breves, as is clear in the following examples and notated below:

Ex. 15:*

* The third note of measure 9 in the upper part, the last note of measure 5, and the second note of measure 8 in the tenor part are altered white semibreves.
Ex. 16:*

* The mensuration sign (02) given in the upper part should be replaced by C2.

Ex. 17:

47) Black sesquialtera in the same prolations or mensurations requires that black [notes] without a sign lose
a third part, which they also observed in the same way in rests, and this does not continue any further then the black notes persist; semibreves are also altered before breves.

48) Indeed this does not differ from white except in so far as this sesquialtera is black in place of a white sign, just as we also said above concerning black sesquialtera in perfect minor, as is clear in the following notated examples.

Ex. 18:*
A black breve in the original notation (the first note of measure 4 in the upper part) should be changed to a dotted black breve. The first note of measure 11 and the eighth note from the end of the upper part are an altered white breve and an altered semibreve, respectively.
49) [Subsesquialtera] in every prolation requires that twos be put in place of threes, so that a third part may be added; that is, a maxima is worth one maxima and a half, and a longa is worth one longa and a half, and so on, as is seen in the examples. The sign of this is $\frac{2}{3}$.
The second note in measure 5 and the first note in measure 6 are altered semibreves. The breve in the subsesquialtera proportion (mm.3-4), which is now worth two semibreves, is equal in duration to three semibreves under the preceding sign C.

50) Dupla after sesquialtera in perfect [tempus], minor [prolation] (or just as it lies) requires that semibreves be numbered in threes just as minims of the preceding proportion are numbered, and in the same way, just as minims before semibreves are altered, so too in this dupla, semibreves before breves are altered, and they are sung in the same manner in which sesquialtera is sung in semi, of which this is the sign: 2.
The fifth notes of measure 4 in both parts are altered white semibreves. The dots after the first and fifth notes in measure 5 of the upper part are points of augmentation. On the other hand, the dots after the third note of measure 4 and the fourth note of measure 5 in the tenor part are points of division.
* The breve rest that appears after the fourth note in measure 13 of the upper part should be eliminated. The last note in the sesquialtera section (m. 7) of the tenor should be emended from a white minim to a white semibreve.

51) Dupla after sesquialtera in semi or in perfect mode or duple of minor imperfect requires that six semibreves be put in place of a single ictus [stroke] of a rest of the same
value; that is, just as in the manner of pausing a sesquialtera of similar prolations, three semibreves are put in place of a single ictus of a rest. 52) Therefore, semibreves are sung in the same manner as minims are sung in the same sesquialtera, as is seen in the following examples:

Ex. 24:*

* The breve after the ligature (the third note in m. 11) of the upper part should be changed to a longa.
Ex. 25:*

Seay misreads the notes before the ligature of the duple section (the third and fifth notes of measure 7) as longas; they are breves in the manuscript. The ligature (the last three notes in the same measure) should be emended to . Seay misreads the first note of measure 9 in the tenor as a breve, but it is a longa in the manuscript.
53) A third example follows on the next folio:

Ex. 26:*

* The fourth ligature in the upper part (the last three notes of m. 8) should be changed from \( \text{[P]} \) to \( \text{[F]} \). The fourth note of measure 2 in the tenor is a semibreve, not a minim. The sesquialtera sign after the dupla sign in the tenor of original notation should be removed.
54) Sesquitertia in imperfect [tempus], major [prolation] requires that white notes be sung in the same manner in which *semi* is sung, i.e. that two semibreves be placed in the single ictus of a [common semibreve] rest, and if black notes enter, six minims are placed in the single ictus of a rest, as is clear in the examples. The sign of this is: ○.

Ex. 27:*

![MUSIC staff](image)

*The last note of the first measure in the tenor is an altered minim. Except for the dot after the fourth note from the end of the upper part (point of augmentation), all other dots are points of division.*
* The last note of measure 4 in the tenor is a semibreve, not a minim. The last note of measure 7 and the first three notes of the following measure should be changed from e, f, a, b to f, g, b, c. The second note in measure 15 of the upper part should be changed from E to F.
The mensuration sign \( \text{\textcopyright} \) should be inserted after the group of black notes in the upper part.

55) Sesquitercia in perfect [tempus], minor [prolation] requires that four semibreves of the proportion\(^1\) be placed for three of the plication\(^2\) of which we make mention, as is seen in the example:

\(^1\)This refers to the sesquitercia proportion (see footnote 36 [Chap. I] and the text associated with it).

\(^2\)This refers to the subdivision of the semibreve (see footnote 36 [Chap. I] and the text associated with it).
Ex. 30:*

* The second note from the end of the upper part should be changed from D to C.

56) Sesquitertia in *semi* requires that four breves of proportion be placed for three of the prolation. The sign of which is: \( \frac{4}{3} \).

Ex. 31:*

* The mensuration sign in both parts should be changed from ç to φ.
57) Subsesquiterias requires that three of the proportion be placed for four of the prolation, if it should happen to come in perfect minor, minims are sung in the same manner in which black semibreves of imperfect major tempus are sung, as is clear in the example. The sign of this is: \( \frac{3}{4} \)

Ex. 32:*

* The proportional ratio 3/4 should be changed to a sesquitercia proportional sign (4/3).

58) Subsesquiteria in *semi* requires that the semibreves be sung as minims of the example above are sung, as is clear in the following example:
The dot after the first longa (m. 1) in the tenor signifies a punctus of augmentation.

59) Dupla after sesquitertia in perfect minor requires that eight semibreves be put in place of three of the prolation, just as sesquitertia requires that four be put in place of three; thus dupla in the same manner is eight, as is clear in the example:

Ex.34:*
* The blackened minim appearing between the fourth and fifth notes in measure 2 of the upper part in the manuscript seems to be a scribal error. Seay misreads the fourth white minim (the last note of m. 2) as a white semibreve.

60) Dupla after sesquitertia\(^3\) in semi requires that eight breves of the proportion be put in place of three of the prolation, as is clear in the following example:

Ex.35:* 

* The mensuration sign of this example should be \(\Phi\), not \(\phi\). the sign of subsesquitertia (3/4) also should be changed to that of sesquitertia proportion (4/3).

61) Dupla in every prolation subtracts half from the thing being sung, whence a maxima is sung as a longa, a longa as a breve, a breve as a semibreve, and a semibreve as a minim, as is clear in the example:

\(^3\)Since the text clearly describes duple after sesquitertia proportion, the prefix "sub" should be removed.
Ex. 36:

* The first note of the tenor should be changed from a longa to a breve. The dots that appear in the upper part are dots of augmentation.

62) Subdupla in every prolation adds a half, whence a minim is sung as a semibreve, a semibreve as a breve, a breve as a longa, and a longa as a maxima, as is clear in the example. The sign of this is: $\frac{1}{2}$. 
The fifth note from the end of the upper part is a semibreve, not a minim. The second ligature from the end of the tenor (\( \frac{3}{1} \)) should be changed to \( \frac{1}{2} \).

63) Tripla in every prolation requires that three of the proportion be placed for one of the prolation; that is, three maximas for one maxima, three longas for one longa, and so on, as is clear in the example. The sign for this is \( \frac{3}{1} \).
Ex. 38:

* The dot after the fifth note from the end of the tenor is a point of augmentation.

64) Quadrupla requires that four of the proportion be placed for one of the prolation; that is, [four] maximas for one maxima, four longas for one longa, and also, as a result, one maxima is sung for a breve, a longa for a semibreve, and a breve for a minim, as is clear in the example. The sign for this is: 4.
65) Subquadrupla requires that one of the proportion be placed for four of the prolation; whence a breve is sung for a maxima, a semibreve for a longa, and a minim for a breve, as is clear in the example. The sign for this is: $\frac{4}{4}$. 
Ex. 40: *

* The last note in the upper part should be a white semibreve, not a longa.

66) Three minims are put in place of a single ictus of a rest both in white and in black; minims are also altered before semibreves:
* The first eleven notes in the upper voice should be notated as augmented notes: instead of }
67) A third part is added; a longa is worth three breves, a breve is worth three semibreves, and a semibreve is worth three minims:
The second note of all two-note ligatures (except the last one) in the upper part is altered. The eleventh note (the second note in m. 29) should be changed to a dotted semibreve. **I have not yet been able to arrive at a satisfactory transcription for this portion of the tenor.
68) Four semibreves of the proportion are placed for three of the prolation:

Ex. 43*

* Seay reads the seventeenth note (the second note of measure 6) in the tenor as a semibreve, but it is a minim in the manuscript. The third note in m. 23 of the tenor should be a black minim.
69) Three semibreves of the proportion are placed for one of the prolation:

Ex. 44: *

* The eleventh note from the end of the upper part should be changed from a blackened minim to a white minim.
IV 1) For acquiring a correct and complete understanding of the English manner

2) Note that they have one manner called Fauxbourdon, which is sung with three voices, namely, with soprano, tenor, and contratenor. 3) And note that the soprano is begun at the unison, which unison is taken in place of an octave higher, and thereafter continues in thirds below [the tenor], which mean to express thirds below or to represent sixths above, and afterwards reverting to the unison, which represents an octave, as the example shows. 4) The contratenor, however, takes its first consonance a fifth above the tenor and afterwards moves in thirds above it until the end of the harmony at a fifth higher, as is made clear by the example:

Ex. 45:
5) Note that the unison here is taken in place of the octave, and the third below is taken in place of a sixth higher, etc.

6) Note that the English have another manner, called Gymel, which is sung with two voices, and has as consonances both higher and lower thirds and unisons, and an octave and the sixth by doubling at the lower octave, and with this it has sixths and octaves, as is clear in the example:

Ex. 46:

7) Rule for composing with three independent voices.

8) Create the soprano conjunctly in the tone (mode) you want to use. 9) With this, create a second soprano taking as the first consonance a unison; thereafter you should make thirds below, either four, five, or six, according to what will please you. 10) But you should see to it that the antepenultimate and penultimate be thirds above if they are
descending. The last note should be a unison, however, and thus for the rest, it should be begun again in thirds below, and arrive at the unison. 11) But the contratenor should take the unison and then, in what follows, the fifth, third, octave, or third below; and the penultimate should always be a fifth. 12) The example will be clear upon turning the page:

Ex.47:
V 1) Concerning the understanding of cantus firmus

2) Note that there are seven special letters, namely, A B C D E F G, of which four are finals and naturals, while the others are not. 3) The finals are D, E, F, G, because every song ends in them naturally, in others, however, not naturally. 4) And there are twenty common or general letters, which letters are repeated, namely: G A B C D E F G; A B C D E F G; A B C D E. 5) Of these letters eight are graves (low), seven are acute (high) and 5 are superacute.

6) There are eight graves, G A B C D E F G, and they are called graves because they produce a low sound; and seven are acute; namely, A B C D E F G, and they are called acute because they raise up, that is, they are in a better position of the voice; and there are five superacutae, namely, A B C D E, and they were called superacute because they raise up higher and stand very high.

7) And note that out of these letters there are three through which the three proprieties are recognized - namely, square b, natural, and soft b. 8) Specifically, G specifies square b, C the natural, and F the soft b, as is clear through this verse: "C gives the natural, F the soft b, while G gives the square."

9) Note that there are two signs, namely, the square
and soft b. 10) The square □ sign is used for natural and sharp; 11) the soft b sign is used as a flat.

12) Note that there are two clef signs, namely, C sol fa ut and F fa ut. The clef C sol fa ut is used with square b and natural. 13) The clef [F fa ut] makes use of soft b. 14) The clef C sol fa ut is made in this manner: □ 15) The clef soft b [F fa ut] is made in this manner: \[\begin{array}{c}
\text{\textcircled{\textbullet}} \\
\text{\textcircled{\textbullet}}
\end{array}\], or this; \[\begin{array}{c}
\text{\textcircled{\textbullet}} \\
\text{\textcircled{\textbullet}}
\end{array}\], or this: C j ë , or this:

16) Note that there are six syllables, namely, ut re mi fa sol la, of which three are for the sake of ascending, namely, ut, re mi, and three for the sake of descending, namely, fa sol la, as appears in the following verse: Ut re mi scandunt ("ut re mi they ascend"); fa sol la quogue descendunt ("fa sol la also they descend").

17) Note that there are seven hexachords, namely, three with square b, two natural, and two with soft b. 18) And note that wherever there is a G, the entire hexachord is sung with square b; wherever there is a C, the entire hexachord is sung with a natural; wherever there is an F, there the entire hexachord is sung with soft b.

19) Note that the hexachord is a movement through six syllables, namely, ut re mi fa sol la. 20) Note that Gamma ut stands on a line, A re in a space, B mi on a line and thus
proceeding from line to space all the way to the end of the hand, as this appears below:

Ex. 48:

21) Note that mutation is to change from one propriety into another, as for example, from square \( \square \) or soft \( b \) into natural, or conversely. 22) Note that when there is only one syllable a mutation cannot be made, and when there are two syllables, then there are two mutations in that place. 23) And when there are three syllables, then there are six mutations, taking the first and second syllables and conversely, and first and last and conversely, and the second and last and conversely, etc.

24) Note that if there are two syllables you ought to make your mutation by abandoning a letter and taking the syllables just as they lie in ascent, and conversely, in descent.
25) Note that mutation should not be made on B fa [ ] mi because of the semitone, which semitone is derived from semus, sema, semum (that is, "part"), and tonus, (tone) -- "part of a tone," as it were. Therefore mutation cannot be made because it would be a discord, in that fa is a semitone and mi is a whole tone.

26) Note that according to Boethius there are seven consonances, namely, tone, semitone, major third, minor third, octave, fifth, and fourth, which we will discuss in the following notated examples along with hexachords and mutations. 27) First something concerning solmization must be taught. etc. And first, beginning thus:

Ex.49:
28) There follow seven hexachords, three with square, two natural, and two with b flat, as is made clear by means of the examples below:

Ex. 50:

* Seay misreads the notes for the second hexachord with b flat as A B C D E F F E D C E A instead of F G A B C D D C B A G F.

29) There follow mutations through the entire hand. There is a mutation of signs and a rotation of syllables without a change of sound to produce a modulation from one hexachord into other hexachord:
31) There follow the seven consonances, notated below according to Boethius:

Ex. 52:
VI 1) Here begins a treatise on the understanding of counterpoint composed in two, three, and four voices, according to the manner of the French as well as the English.

2) And beyond this, note that there are four simple consonances, namely, two imperfects, the third and sixth, and two perfects, the fifth and octave. 3) I say "simple" with good reason, because many consonances can be composite, for under the third the tenth and seventeenth are placed; the thirteenth and twentieth are put together under the sixth; the twelfth and nineteenth are put together under the fifth; the fifteenth is placed under the octave.

4) The unison, however, according to Boethius, is not a consonance but the origin and beginning of all consonances, just as unity is not a number, but the origin and beginning of all numbers. 5) And of these consonances there are six perfect and six imperfect, and I understand this not only concerning the simple but also concerning composite ones, as is laid out below:
unison
fifth 6 perfect
octave intervals
twelfth
sixteenth
nineteenth

third
sixth 6 imperfect
tenth intervals
thirteenenth
seventeenth
twentieth

6) The sequence of these consonances is thus: when there is a unison it seeks the third; the third seeks the fifth; the fifth seeks the sixth on the same pitches; the sixth seeks the octave on a different pitch; the octave seeks the tenth; the tenth seeks the twelfth; the twelfth seeks the thirteenth on the same pitches, the thirteenth seeks the fifteenth on different pitches; the fifteenth seeks the seventeenth; the seventeenth seeks the nineteenth; the nineteenth seeks the twentieth. 7) On the other hand, the twentieth seeks the nineteenth; the nineteenth seeks the
seventeenth; the seventeenth seeks the fifteenth; the fifteenth seeks the thirteenth; the thirteenth seeks the twelfth; the twelfth seeks the tenth; the tenth seeks the octave; the octave seeks the sixth; the sixth seeks the fifth; the fifth seeks the third; the third seeks the unison.

8) Here follow the rules of the above-mentioned counterpoint

9) The first rule is that we should begin and end the counterpoint by means of a perfect interval, but that the penultimate should be an imperfect interval which is appropriate to the perfect interval.

10) The second rule is that we cannot make two parallel perfect intervals moving from line to space, or on the contrary, from space to line; but we are well able to do this if there be four or three [stationary] notes and those three be three fifths, or three unisons, or three octaves, or whatever, etc.

Here follows the third rule of the above-mentioned counterpoint.

11) The third rule of the above-mentioned counterpoint is that we can properly make two or three dissimilar perfect intervals, such as fifth and octave, octave and twelfth,
twelfth and fifteenth, and the reverse of these. 12) But we cannot make a unison and an octave or the reverse of these, because, according to Boethius, the unison is considered to be the diapason; namely the octave.

13) The fourth rule is that we are able to make free use of the imperfect intervals both in ascending and in descending from step to step, but such imperfect intervals should have perfect intervals, as required; if there be a third, the fifth should follow, if there be a sixth, the octave and so on.

14) The fifth rule is that we can neither ascend nor descend in perfect intervals except in two ways, namely, through diapente and diatessaron, that is, by fifth and by fourth. 15) By fifth: if the cantus firmus descends a fifth, the counterpoint can descend with the cantus firmus from a perfect consonance into a perfect consonance, such as from the fifth to the octave. By fourth: if the cantus firmus descends a fourth, then the counterpoint can descend from an imperfect into its perfect, as from the third into the fifth, as is clear in the example:

Ex. 53:
The sixth rule follows.

16) The sixth rule is that we can neither make fa against mi, nor mi against fa in perfect intervals because of the semitone. 17) We can do this, however, in imperfect intervals, because it gives sweetness.

18) The seventh rule is that in every counterpoint we always ought to take the closer or more proximate notes, since every disjunct [note] is inconsonant.

19) The eighth rule is that although we have set forth twelve consonances, both perfect and imperfect, simple and composite according to modern usage, nothing [prevents] dissonances from sometimes serving the needs of consonance, as for example, the dissonance of a second gives sweetness to the third below, or the dissonance of a seventh gives sweetness to the sixth, the dissonance of a fourth gives sweetness to the third higher, and that the third gives sweetness to the fifth, and this according to modern usage.

20) The ninth rule is that although we have said that the fifth ought to precede the sixth on the same pitch, and that the thirteenth ought to precede the fifteenth on the same pitch, nevertheless it is sometimes pleasant for the sixth to precede the fifth, and the fifteenth to precede the thirteenth, both on the same pitch and on different pitches, for the sake of sweetness.
21) Furthermore, repetition should be specially avoided, that is, to repeat one thing two or three times, such as fa mi, fa mi, sol fa, sol fa, unless the cantus firmus should occasion this. Thus, the things said concerning these rules should be sufficient.

22) Note that for having perfect sight perfection of consonances, note that the unison is taken as the octave, the lower third is taken as the sixth higher, the third higher is taken as a tenth, and the fourth lower is taken as a fifth higher, an actual fifth higher sometimes is taken as a twelfth, an actual sixth is taken as a lower third, and an actual octave lower is taken as a unison.

23) Here follow the palms of counterpoint.

24) Here begin the palms of counterpoint both with high square 'b's as well as high naturals.

<table>
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<tr>
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<td>re 5 desuper</td>
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<td>mi 5 [desuper]</td>
<td>sol 3 desuper</td>
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<td>mi 6 desuper</td>
<td>fa 5 desuper</td>
<td>la 3 [desuper]</td>
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<tr>
<td>A re 8 desuper</td>
<td>fa 6 desuper</td>
<td>sol 5 desuper</td>
<td></td>
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</tbody>
</table>
B ut 10 [desuper]  mi 8 [desuper]  sol 6 [desuper]  la 5 [desuper]
C re 10 [desuper]  fa 8 [desuper]  la 6 [desuper]
D ut 12 [desuper]  mi 10 [desuper]  sol 6 [desuper]
E ut 13 [desuper]  re 12 [desuper]  fa 10 [desuper]  la 8 [desuper]

G ut 15  mi 17  sol 19  la 20
A re 15  fa 17  la 19
B ut 13  mi 15  sol 17
C ut 12  re 13  fa 15  la 17
D re 12  mi 13  sol 15
E ut 10  mi 12  fa 13  la 15
F re 10  fa 12  sol 13
G ut 8  mi 10  sol 12  la 13
A re 8  fa 10  la 12
B ut 6  mi 8  sol 10
C ut 5  re 6  fa 8  la 10
D re 5  mi 6  sol 8
E ut 3  mi 5  fa 6  la 8
F re 3  fa 5  sol 6
G ut unisonus  mi 3  sol 5  la 6
A re unisonus  fa 3  la 5
B ut 3 desuper  mi unisonus  sol 3
C re 3 desuper  fa unisonus  la 3
D ut 5 desuper  mi 3 desuper  sol unisonus
E ut 6 desuper  re 5 desuper  fa 3 desuper  la unisonus

25) Here end the palms of counterpoint.
26) Here begin the rules of counterpoint of the English, which, according to the English themselves, is made in two ways.

27) The first manner that is common to them is called Fauxbourdon. 28) This Fauxbourdon is sung with three voices, namely, tenor, contratenor and soprano. 29) The second manner, which is called Gymel, is sung with two voices, namely, soprano and tenor. 30) Here follow the rules of the aforesaid manner.

31) Note that if this manner is sung according to the English themselves, the cantus firmus ought to be taken as the soprano, and the above-mentioned cantus firmus ought to govern the soprano or cantus. 32) But this should be understood in perfect number, which perfect number is called threefold, whether this threefold nature be in breves, in semibreves, or in minims.

33) Note that the first note of the cantus firmus, even if it exists alone, ought to be doubled, that is, it ought to be worth two of the other notes, that is, it ought to be equivalent to six smaller notes.

34) Likewise, if after the first or the second note, two [of the cantus firmus] notes are found in the same place, that is, on the same line or space, the first ought to
receive a transition or connecting passage appearing in the same place and on the same pitch.

35) Likewise, the last note also receives the same crossing under the same spot and sound.

36) And note that this Fauxbourdon, as mentioned above, is sung in three voices, maintaining the arrangement of the said notes mentioned above, but that the soprano should have as consonances first the octave, and sixths as the remaining ones, and there should be an octave at the end of the harmony, that is, it should have sixths and octaves as consonances above the tenor. 37) The contratenor, however, ought to adhere to the above-mentioned manner of the soprano; but [note] that it has as consonances the third and fifth above, that is, the first is a fifth, and the remaining ones thirds; but the end of the harmony should be a fifth, as will be clear in the example.

38) However the manner of this Fauxbourdon can be taken differently by us, not adhering to the above-mentioned rules, but holding the cantus firmus properly just as it stands, and by keeping the same consonances mentioned above, both in the soprano and in contratenor, by being able to make syncopation through sixth and fifth, but the sixth will be the penultimate, and thus making the contratenor in such a way as will be clear through the example.
39) In this Fauxbourdon the contratenor can be made low and sometimes high, as will be shown below:

Ex. 54:*
The mensuration sign \( \| \) should appear at the beginning of the soprano part, and the sign \( \odot \) of the tenor part should be changed to \( \| \). The first note of the cantus firmus is a longa, not a breve. The three notes in measure 23 of the soprano part should be changed from \( \cdot \) to \( \odot \).

40) The contratenor, however, is sung just like the soprano, taking a fourth below the soprano, which comes to be a fifth, and a third above the tenor. 41) This manner is commonly called Fauxbourdon; indeed, the soprano is devised through the cantus firmus.
42) But for the composition of another type which is called Gymel, certain rules are given.

43) The first rule is that in Gymel there are six consonances, namely, the third both above and below [of the cantus firmus], the sixth and octave, and the tenth and octave below.

44) The second rule is that, if Gymel is taken above the cantus firmus, it ought to hold to the rules mentioned above in fauxbourdon, that is, the three-fold number, whether such number is three-fold in semibreves or in minims.

45) The third rule is that both in Fauxbourdon and in Gymel a contratenor bassus can be created, and these two types can be sung with four voices.

46) The fourth rule is that, if Fauxbourdon should create its soprano in sixths and octaves, you should create the contratenor bassus descending beneath the tenor in fifths and thirds below, but that penultimate should always be a fifth below the tenor, which will be at a tenth with the soprano, and the antepenultimate will be a third below; and thus, by doubling at the fifth and third below, so that the first note is an octave below or a unison, the final should be an octave below or a unison. 47) But the contratenor altus in this Fauxbourdon will take as its penultimate a
fourth above the tenor and as its antepenultimate a third above the tenor, and doubling [an octave] above the tenor.

48) However, in Gymel a contratenor can be made, because if the Gymel should take as consonances sixths and octaves in the manner of Fauxbourdon, then the contratenor of Gymel can proceed just as the contratenor of Fauxbourdon, in thirds and fifths, or it can take a fifth below as the penultimate or a third below as the antepenultimate, just as was said in the preceding rule.

49) If, however, they hold thirds and unisons, as is shown in this example:

Ex. 55:*
* The mensuration sign \( \bigcirc \) should appear at the beginning of each part. Two semibreve rests should be added at the end of the tenor part. The last note of the contratenor bassus should be emended from F to G.

then the contratenor assumes a fifth below as its penultimate, and a third or an octave lower, or a unison with the tenor, as its antepenultimate, assuming the octave below as the final note. As concerns individual cases, it will be clear through the examples.

50) The notated examples follow:

Ex. 56-1:*
* The first semibreve, appearing as the second note in the manuscript, should be removed. The first segment of the cantus firmus part in the manuscript is used for this example. However, the first ligature of the tenor should be changed from \( \text{♩} \) to \( \text{♩} \).
The second segment of the cantus firmus part in the manuscript is used for this example. The first ligature should be changed to $\overbrace{}$. The last breve in this segment is not needed.
The third segment of the cantus firmus part in the manuscript is the tenor of this example. The first ligature should be changed from \( n \) to \( p \).
51) Another example:

Ex. 57:

52) Another example:
The first note of the cantus firmus should be a breve. The second note in m. 13 of the soprano part should be changed from a semibreve to a minim.
53) Here follow certain rules about composition.

54) And note that concerning composition of four voices, either with four voices over some *cantus firmus* or over some *cantus figuratus*, you should make sure that the contratenor bassus always hold a lower fifth at the penultimate [note] of the concord. 55) Likewise, [you should make sure] that the antepenultimate be a third lower, and that which is before the antepenultimate should be a fifth, so that the beginning or the first note will be a unison and the last note of the concord also a unison or an octave below. 56) But the soprano should always hold its penultimate a sixth above the tenor, in such a way that the last note of the concord is always an octave higher than the tenor. 57) And the first note likewise should be an octave; the remaining notes, however, are always sixths. 58) The contratenor altus should always make its penultimate a fourth above the tenor, in such a way that the antepenultimate will always be a third higher, and that which is before the antepenultimate should be a fourth [higher], and the preceding should always be a third, so that the last [note] will always be a third higher or a unison or an octave lower, and the first note likewise, as is clear in the example:
Ex. 59:

Soprano

Contratenor altus

Tenor

Contratenor bassus
59) Two exceptions are made to the former rule, of which the first is that if the cantus firmus holds the modus of the soprano, for instance fa mi [mi] fa, sol fa fa sol, la sol sol la, then the contratenor bassus can hold the modus of the tenor, that is, make its penultimate a low sixth beneath the tenor, and the last note an octave below. 60) But the contratenor altus will keep the modus of the contratenor, that is, it will make its penultimate a third higher, but the final note a fifth above the contratenor, which will be a fourth below the tenor. 61) But the soprano will make its penultimate a fifth above the tenor, which will be a tenth with the contratenor bassus; but it make its last note a third above the tenor, which will be a tenth with the contratenor bassus.

62) The second exception is that if the cantus firmus or cantus figuratus should still hold the mode of the soprano -- that is, it should be made as follows, fa mi fa, sol fa sol, mi re mi, la sol la -- then the contratenor bassus can make its penultimate a low third below the tenor, but by making the last a low octave below the above-mentioned tenor; but the soprano will make its penultimate a third over the tenor, in such a way that the last note will be a unison with the tenor, which will be a low octave with the contratenor bassus. The contratenor altus will make its penultimate a
sixth over the tenor, but making its last [note] a third
above the tenor, as will be clear in the examples:

Ex. 60-1:

Ex. 60-2:

* Seay misreads the clef of the Altus as .
64) Another manner of composing with three voices.

65) You should make your tenor not disjunct and well intoned, and you should make the diminution itself just as you wish; you should make sure that the soprano hold the octave above at the beginning, and thereafter you should make all tenths above, both at the end of the concord as well as at the beginning. 66) And in the middle you should make sure, as a consequence, that the contratenor hold as its first note either an octave or a fifth, and that you make all other notes high sixths above the tenor, in such a way that the end of the concord will be an octave. This composition will be easy and useful. 67) In this composition the contratenor can be made neither high nor low, so that the contratenor itself may make use of upper thirds that ascend to the fifth (toward the upper fifth at the end of the concord), as will be clear in the example:

Ex. 61:*
The second note from the end of the upper part is a white semibreve, not a minim. The last note in measure 2 and the first note of measure 3 in the contratenor part should be changed from ♩ ♩ ♩ ♩ to ♩ ♩ ♩ ♩.
Another manner of composing follows.

68) **Another manner of composing with three voices**

69) Make the tenor well intoned and with large [note values], that is, not diminished and not disjunct, and make, if you wish, a contratenor bassus under the tenor, diminished in such way as you wish, and make your soprano diminished just as is the contratenor bassus, and make sure that the consonances of the contratenor bassus with its soprano be almost all tenths.

70) Likewise, note that the consonances of the contratenor bassus with the tenor are these -- namely, octave, fifth, sixth, and low third -- so that the penultimate of the concord should always be a low fifth, and the antepenultimate should be a low third or low octave.

71) Likewise, note that in this manner you can make the soprano first by keeping these consonances -- namely, octave, sixth, fifth, and high third -- but that the penultimate of the concord should always be a sixth, but the final an octave, as is clear in the following examples:
The last note in m. 14 should be changed to a white breve.
VII 1) Here begins a treatise on organal music

2) First note that organal or figured music consists in prolation, modus, tempus, number, figures and rests, dots and signs. 3) First note that prolation recognized by three signs, having been made by ternary and binary number, and it should be observed that prolation is two-fold, namely, major and minor. 4) Major is divided into perfect and imperfect, and minor similarly into perfect and imperfect.

5) Note that there are three fundamental signs by which organal music is recognized, namely, O C •, and with these signs two others are added, namely, 2 and 3. 6) Thus, there are these five signs by which prolation, modus, and tempus, and specially proportion is recognized, whether these signs are simple, as for example:
Ex.63:

\[
\begin{array}{cccccccc}
\text{O} & \text{O} & 2 & 3 & \text{O} & \text{O} & 0 & 0 \\
\end{array}
\]

or these signs are composite ones, as is clear in this manner:
7) And it should be noted that all these signs are either called simple, such as these: \( \bigcirc \mathcal{C} \mathcal{C} \), or composite, such as these: \( \mathcal{C} \mathcal{C} \mathcal{C} \mathcal{C} \), or more-than-composite, such as these: \( \mathcal{C}3 \mathcal{C} \mathcal{C} \mathcal{C} \), or moreover, composite-plus-more-than composite, such as these: \( \mathcal{C}3 \mathcal{C}3 \mathcal{C}3 \mathcal{C}3 \mathcal{C}3 \mathcal{C}3 \). So much concerning the individual signs.

8) And it should be observed, as far as the first signs which are called simple are concerned, if there is a circle
by itself, a perfect breve will be worth three semibreves. 

9) If, however, there is a half circle, a breve will be worth two semibreves. 10) If, however, they [the signs] are composite, and there is a circle, with a dot, a perfect breve will be worth three semibreves, and a perfect semibreve will be worth three minims.

11) If they are more than composite, and if there is a circle, a longa will be worth three breves, and a breve three semibreves. 12) If, however, they are composite-plus-more-than composite, a maxima will be worth three longas and a longa three tempora, and one tempus, if it is under a perfect circle, will be worth three semibreves, and so on, as it will be determined in the following concerning each single sign.

13) First concerning the sign of minor perfect.

14) 是 the sign of perfect [tempus], minor [prolation] under imperfect modus, in which a maxima is worth two longas, and a longa two breves, and a perfect three semibreves, a semibreve two minims. 15) And it is well that I call that the breve perfect, because only a semibreve or that which is smaller than a breve can imperfect the breve itself; and example is as here:□◊。 16) The first [breve] is perfect because like before like cannot be imperfected.

17) This sign is a half of the preceding in so far as it holds the same number, but it is diminished by a half
part, because a maxima, which will [normally] be worth twelve
semibreves, is worth only six, and a longa, which will be
worth six semibreves, is worth only three, and thus other
figures are diminishing by a half part according to time, but
not according to number, as was said above.

18) \( \underline{\text{–}} \) is the sign of imperfect [tempus], minor
[prolation], in which a maxima is worth two longas, a longa
two breves, a breve two semibreves, and a semibreve two
minims.

19) \( \overline{\text{–}} \) A sign that has been reversed is always half
of its antecedent.

20) \( \mathcal{C} \) This sign is equivalent to the sign that has
been reversed.

21) \( \mathcal{D} \) This sign is the half of the sign that has
been reversed, and thus into infinity.

22) \( \mathcal{E} \) This sign is a common sign halved, in which a
maxima is worth four semibreves, and a longa two semibreves,
and a breve one semibreve, a semibreve one minim, and a minim
one semiminim, etc., and this pertains to time of
pronunciation and not so much to number.

23) \( \mathcal{F} \) is the composite sign with a dot of perfect
[tempus], major [prolation], in which there is a ternary
number in semibreves because of the circle and ternary in
minims because of a dot, in which a maxima is worth two
longas, and a longa two breves, and a perfect breve three semibreves, and a perfect semibreve three minims. 24) And it is well that I call this perfect, because a breve can be imperfected and a semibreve can be imperfected; a breve, if a single semibreve or a smaller note follows it, as here: □ ◊. A breve is said to be perfect, however, when a similar [note] or a larger one follows it, as here: □ □, because like before like can not be imperfected. 25) A semibreve is imperfected if a single minim follows, as here: ◊ □ . A semibreve is said to be perfect when a similar [note] or a larger one follows it, as here ◊ ◊ □, because like before like can not be imperfected, even before its rest, as here: ◊ □ .

26) And note that, if in this prolation two semibreves are placed between two breves without a dot, the second of those alters; and if two minims are placed between two semibreves without a dot, the second minim alters. 27) Example of the first: □ ◊ ◊ □ , [Example of the second]: ◊ ◊ ◊ ◊ .

28) And note, moreover, this that all figures can be perfected and imperfected except a minim, which can be worth only two semiminims. 29) Since a perfection must be established in a ternary number, such as a maxima, it can be imperfected both a parte ante and a parte post, or a parte post, or a parte ante, 30) as is clear here: ◊ □ ◊ □ □ □ .
31) And a longa can be imperfected similarly in the manner just discussed, as here: ♩ ♩ ♩ ♩ ♩ ♩ ♩ . 32) And a breve can be imperfected only with a parte ante alone, or a parte post alone, as is clear here: ♩ ♩ ♩ ♩ ♩ ♩ ♩ . 33) But note that a semibreve can not imperfect a breve if a similar [note] follows, because otherwise that rule like before like would be destroyed, etc. 34) But if there is a semibreve and it does not have place before, it should receive a place after the first [one] that it can have, as is clear in the example: ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ >>
of a dot: and if a smaller note follows it, it can be
imperfected, as is clear here in this example: ♩ ♩ ♩.

39) Under this such sign, if two minims are placed
between two semibreves without a dot, the second minim
alters, that is, it is worth two, and note that there is only
a ternary number in minims.

40) This sign is a half of the preceding sign,
since every sign that has been reversed is a half of its
antecedent. 41) This sign holds the same number, as the sign
preceding, but has been diminished by a half part, that is, a
maxima is taken as a longa and a longa as a breve.

42) This sign is equivalent to the sign of
preceding, holding the same number and mensuration.

43) This sign is a half of its antecedent, but
diminished by a half part and holding the same number. 44)  
Under such a sign, indeed, a maxima is taken as a breve, a
longa as a semibreve, a breve as a minim and a half, and so
on with others, diminishing by half, etc.

45) All such signs, moreover, hold the same alterations
in minims, just as in the preceding signs.

46) 3 This sign is the sign of perfect modus, perfect
tempus and imperfect semibreve, in which a maxima is worth
two longas, a perfect longa three breves or three tempora, a
tempus three semibreves, and a semibreve two minims. 47) It
is well that I call the breve perfect, because a longa can be
imperfected if a single breve or a smaller note follows it,
and this is understood as in perfect modus, when a longa is
worth three tempora.

48) And note beyond this that modus is two-fold, namely,
perfect and imperfect. 49) Modus is perfect when a longa is
worth three tempora or three breves. 50) Modus is imperfect
when a longa is worth two tempora or two breves, and this is
understood in respect to both simple signs and those that are
composite, with a dot. 51) When a longa is worth three
tempora is understood when signs are composite, with 3 or
with 2, or in this way: \[3\], and thus concerning single
[signs].

52) There is indeed a different modus which is
composite, with a circle and two threes (3 3), or with a
circle and two twos (2 2), and such a mode is understood when
a maxima is worth three longas, a longa three tempora, and a
tempus three semibreves, and a semibreve sometimes three
minims and sometimes, two.

53) Under that sign discussed above [\(\circ\) 3], if two
breves are placed between two longas without a dot, the
second of those breves alters, that is, it is worth 2 breves,
as is clear in this example: \[\square \square \square\]. 54) And if two
semibreves are placed between two breves, the second of those
alters, and this without a dot, because \( \bigcirc \) gives a ternary number of breves and 3 a ternary number of semibreves. 55) And because there is no dot, there is a binary number of minims, that is, a semibreve under this sign is worth only two minims.

56) \( \Box \) 3 The sign is the sign of perfect modus, perfect tempus, and imperfect semibreve, that is, of imperfect prolation, in which there is a ternary number in tempora; that is, a longa is worth three breves, a maxima is worth two longas, and a perfect breve three semibreves, and a semibreve two minims. 57) Under that sign if two breves are placed between two longas without a dot, the second alters, and if two semibreves are placed between two breves without a dot, [the second] alters. 58) And a longa in this sign can be imperfected by \( \Box \); and a breve, \( \Box \), by a semibreve, etc.

59) \( \bigcirc \) 3 This sign is the sign of imperfect modus, perfect tempora, and imperfect semibreve or prolation. 60) And beyond this, note that 3 sometimes gives a ternary number of semibreves, but sometimes a ternary number of minims. 61) As it has been placed in this sign, it always gives a ternary number of minims; and if it has been placed in the sign discussed-above, marked by half in this manner: \( \bigcirc \) 3, it always gives a ternary number of semibreves, that is, a perfect breve is worth three semibreves. 62) Under the
above-mentioned sign, if two minims are placed between two semibreves without a dot, the second minim will alter; and in the second sign, if two semibreves are placed between two breves without a dot, the second semibreve will alter.

63)  This sign is a half of its antecedent, holding the same modus, except that here there is a ternary number in semibreves, and above, a ternary number in minims.

64)  This sign is a sign that is half of its antecedent, that is, a maxima is taken as a longa, a longa as a breve, a breve as a semibreve, etc., and thus diminishing in notational figures into infinity. 65) Another sign follows.

66)  This sign is the sign of perfect modus, perfect tempus and perfect semibreve -- namely, prolation -- in which a maxima is worth two longas, a perfect longa three breves, a perfect breve three semibreves, and a perfect semibreve three minims, in which if two breves are placed between two longas without a dot, the second will alter, and if two minims are placed between two semibreves without a dot, the second will alter. 67) It is well that I call the longa perfect, because sometimes a longa is imperfected, and similarly a breve and also a semibreve.
68) And note that the circle gives a ternary number of tempora or breves, 3 a ternary number of semibreves, a dot a ternary number of minims.

69) \[ \text{This sign is a half of its antecedent, holding the same number, but diminished by half; therein a maxima is worth only a longa, a breve and a half, a breve a semibreve and a half, and a semibreve and a half.} \]

70) \[ \text{This sign is the sign of imperfect modus, perfect tempus and perfect semibreve, that is, proaltion. It is the sign of imperfect modus because of the C, because C gives a binary number; it is a sign of perfect tempus because of the 3, whereby 3 gives a ternary number of semibreves; and it is a perfect semibreve because the dot always gives a ternary number of minims -- that is, a semibreve is worth three minims.} \]

71) Note that under this sign, a maxima is worth two longas, a longa two breves, a breve three semibreves, and a semibreve three minims.

72) Note also that when under this sign two semibreves are placed between two breves without a dot, the second of those will alter, and if two minims are placed between two semibreves without a dot, the second of those minims will alter, that is, it will be worth two minims.
73) 3 This sign that has been reversed is a half of its antecedent, since every sign that has been reversed is a half of its preceding one. 74) This sign holds the same number as the antecedent sign holds, but has been diminished by a half part, because a maxima is taken as a longa, a longa as a breve, etc.

75) 3 This sign is equivalent to the sign of [the preceding] that has been reversed, holding the same number and same alterations.

76) [3] This sign is a half of its preceding one, but holds the same number diminished by a half part, and holds equal alterations.

77) 2 This sign is the sign of perfect modus, imperfect tempus and imperfect semibreve. Many singers take such sign in diminution by half. 78) I say that is properly the sign of perfect modus, because  gives a ternary number of tempora and 2 in fact a binary number of semibreves (that is,  is worth two semibreves), and a binary number of minims, that is, a semibreve is worth two minims. 79) Under this sign, in fact, a maxima is worth two longas, a longa three breves (if it is a perfect), and a breve two semibreves, , and a semibreve two minims. 80) Under this sign, indeed, if two breves are placed between two
longas without a dot, the second of those [breves] will be worth two breves, as here: \[\square \square \square \square\].

81) \[\bigcirc\] 2 This sign is a half of its antecedent, holding the same number and same alterations, but diminished by a half part. Here a longa is taken as a breve and a maxima as a longa, etc.

82) \[\bigcirc\] 2 This is the sign of imperfect modus, imperfect tempus and imperfect semibreve, in which a maxima is worth two longas, a longa two breves, a breve two semibreves, and a semibreve two minims. 83) This sign, indeed, is usually called the sign of diminution by half, because 2 diminishes by a half part, and there a maxima is taken as a longa, a longa as a breve, etc. Here there are absolutely no alterations.

84) \[\bigcirc\] 2 This is the sign of diminution by half of its antecedent, holding the same number with the sign written above, but diminished by a half part.

85) \[\bigcirc\] 2 This sign is equivalent to the sign mentioned above in value of figures and rests, etc.

86) Moreover, \[\bigtriangledown\] 2 this sign is a halving of its antecedent, holding the same number, but diminished by a half part.

87) \[\bullet\] 2 This is the [sign of] perfect modus, imperfect tempus and perfect semibreve, and I say properly "a perfect
modus", because a longa is worth three breves; and I speak properly of an imperfect breve because of the 2, because 2 gives imperfection; and [I say] a perfect semibreve, because in whatever place there is a dot, therein a perfect semibreve is worth three minims. 88) Under this sign, if two breves are placed between two longas without a dot, the second will alter; and if two minims are placed between two breves without a dot, the second will alter. 89) Under this sign, a maxima is worth two longas, a perfect longa three breves (and I say properly "perfect", because a single breve imperfects a longa), a breve is worth two semibreves, and a semibreve is worth three minims. 90) And note that, if two minims are placed between two semibreves without a dot, the second will alter.

91) 2 This sign is the sign for diminution by half of its preceding, holding the same number, but diminished by a half part.

92) 2 This is the sign of imperfect modus, imperfect tempus, and perfect semibreve, in which a maxima is worth two, a longa two, and a breve two semibreves, and a semibreve three. 93) Here, if two minims are placed between two semibreves without a dot, the second of those will alter. 94) This sign is commonly named major imperfect prolation, diminished by half, etc.
95) 2 This sign is a half of its antecedent, but diminished by a half part; therein a maxima is taken as a longa, a longa as a breve, etc.

96) 2 Such [sign] is equivalent to the preceding sign, holding the same number and modus.

97) Moreover, 2 this sign is a halving of its antecedent that holds the same number, but diminished by a half part, etc.

98) 3 This sign is the sign in which a maxima is worth three longas, a longa three breves, a breve three semibreves, and a semibreve three minims. 99) And indeed this is the sign of all ternary number, namely, in longas because of , in breves because of the first 3, in semibreves because of the second 3, and in minims because of a dot. 100) And note that if under such a sign two longas are placed between two maximas without a dot, the second of those longas will alter. 101) And if two breves are placed between two longas without a dot, the second will alter. 102) And if two semibreves are placed between two breves without a dot, the second of those will alter. 103) And if two minims are placed between two semibreves, the second of those minims will alter without a dot, etc.

104) 3 This sign is a half of its antecedent, which sign holds the same number, but diminished by a half
part; that is, a maxima is taken as a longa, a longa as a breve, a breve as a semibreve, a semibreve as a minim and a half, etc.

105) This sign holds the same alterations, both in longas, in breves, in semibreves, and in minims, and there is no other difference between this sign and the other, preceding sign, except that it is diminished by a half part.

106) This sign is the sign of imperfect modus with respect to the maxima, and perfect modus with respect to the longa. 107) In this sign a maxima is worth two longas, a longa three breves, a breve three semibreves, and a semibreve three minims. 108) A maxima is worth two longas because of , a longa three breves because of the first 3, a breve three semibreves because of the second 3, and a semibreve three minims because of a dot.

109) And note beyond this that if two breves are placed between two longas without a dot, the second will alter, and if two semibreves are placed between two breves without a dot, the second will alter, and if two minims are placed between two semibreves without a dot, the second will alter, as is clear in this example: □ □ □ □ □ □ □ □ □ □ □ □ □ □ .

110) This sign is a half of its preceding, because the sign holds the same number as the sign written above, but is diminished by a half part. 111) Under it, a
maxima is placed as a longa, and a longa as a breve, and a breve as a \(
\diamond
\)
, etc.

112) \(\circ\) 3 3 This sign is equivalent to the preceding sign, in which sign a maxima is worth a \(\nabla\) and a longa a \(\square\), etc.

113) This sign holds the same alterations.

114) \(\nabla\) 3 3 This sign is a half of its preceding, in which a maxima is taken as a longa, and a longa as a \(\square\), a breve as a \(\diamond\) and a semibreve as a minim, \(\downarrow\), with a half, etc.

115) \(\diamond\) 2 2 This is the sign of perfect modus with respect to maximas, in which a maxima is worth three longas, and a longa two breves, and a breve two semibreves, and a semibreve three minims. 116) It is appropriate that I say that a maxima is worth three \(\nabla\), because of \(\diamond\), and a longa two breves because of the first 2 (because 2 denotes a binary number), and a breve is worth two \(\diamond\), because of the second 2, and a semibreve three minims because of the dot, because a dot denotes a ternary number of minims -- that is, a perfect semibreve is worth three minims. 117) And note that under such a sign, if two \(\nabla\) are placed between two maximas [without a dot], the second of those will alter, and if two minims are placed between two semibreves without a dot, the second of those minims will alter, as is clear here:
118) This sign is a half of its antecedent, in which a maxima is taken as a longa, a longa as a □, and a breve as a semibreve, etc. 119) And note that in this sign the same alterations are made, just as under the preceding sign.

120) This sign is the sign of imperfect modus, in which a maxima is worth two longas because of □, a longa two breves because of [the first] 2, a breve two semibreves because of the second 2, and a semibreve three because of a dot. 121) This sign indeed can be taken as doubling the half, because there are two twos (2 2). And note that if two minims are placed between two semibreves, the second minim will alter, and this without a dot.

123) This sign is a half of its antecedent, in which a maxima is taken as a longa, as a breve, etc. 124) Such sign holds the equal alterations as the preceding sign.

125) This sign is equivalent to the preceding sign, holding the same number and the same modus as the preceding sign, and the same alteration, etc.

126) This sign is a half of its antecedent, holding the same number as the sign mentioned above, but diminished by a half part.
127) ☞ 3 3  This sign is the sign of perfect modus, in which a maxima is worth three longas because of ☞, a longa three breves because of the first 3, a breve three semibreves because of the second 3, and a semibreve two minims, because there is no dot.

128) And note that if two ☞ are placed between two maximas without a dot, the second will alter. 129) And if two breves are placed between two longas, the second of those will alter, and this without a dot. 130) And if two semibreves are placed between two breves without a dot, the second will alter.

131) ☛ 3 3  This sign is a half of its antecedent, because this sign holds the same modus, but diminished by a half part, because a maxima is taken as a longa and a longa as a breve, etc. 132) It also holds the same alterations.

133) ☝ 3 3  This is the sign of imperfect modus in maximas (that is, a maxima is worth two longas), perfect modus in tempora because of the first 3 (that is, a perfect longa is worth ☝ ☝ ☝), and a breve is worth three semibreves because of the second 3. 134) And note that if two breves are placed between two longas without a dot, the second will alter. 135) And if two semibreves are placed between two breves without a dot, the second will alter; and this is not true of minims, because there is no dot.
136) $\textcircled{3} \text{3} \text{3}$ This sign [is diminished] by half, which sign holds the same number, but diminished by a half part, because a maxima is taken as a longa, and a longa as a breve, etc.

137) $\textcircled{3} \text{3} \text{3}$ This sign that has been reversed is a half of the preceding sign, holding the same number, but diminished by a half part.

138) $\textcircled{2} \text{2} \text{2}$ This is the sign of perfect modus in maximas (that is, a maxima is worth three longas), of imperfect modus in longas (that is, a longa is worth two breves), of imperfect modus in breves (that is, a breve is worth two semibreves), and of imperfect modus in semibreves or in prolations, that is, a semibreve is worth two minims.

139) And note that if two longas are found between two maximas without a dot, the second will alter, as is clear here: $\text{2} \text{2} \text{2} \text{2}$

140) Concerning other figures, however, it is not thus, because all of them are imperfect, because perfection does not exist in binary number, as here: $\text{2} \text{2}$, a semibreve in this sign is imperfected, that is, it is worth only two minims, because there is no dot in the circle, etc.

141) $\text{2} \text{2} \text{2}$ This sign is a half of the preceding, holding the same number and the same alterations, but diminished by a half part.
142) $\infty\infty$ This sign is the sign of imperfect modus in maximas, of imperfect modus in longas, $\infty\infty$ of imperfect modus in breves, $\infty\infty$ and of imperfect modus in semibreves; $\infty\infty$, that is, a maxima is worth two longas, as here: $\infty$  
$\infty\infty$, a longa [is worth] two breves, as here: $\infty\infty\infty$, a breve [is worth] two semibreves: $\infty\infty\infty\infty$, and a semibreve two minims, etc. 143) There is absolutely no alteration, because $\infty$ gives a binary number and similarly the first 2 and the second 2 similarly, and it imperfects the semibreve, because there is no dot which denotes a ternary number of minims. And this sign can be called more-than-half, because of the two twos ($\infty\infty$) and the semicircle, etc.

144) $\infty\infty$ This sign is a half of its antecedent, because the sign holds the same number, diminished by a half part, that is, $\infty$ is taken as a $\infty$, etc.

145) $\infty\infty$ This sign is similar and is equivalent to the preceding sign, etc.

146) $\infty\infty$ Such sign is a half of its antecedent, holding the same number, but diminished by a half part.

147) And these things said concerning prolation and signs, should be sufficient, etc.
VIII 1) **Rules concerning the understanding of syncopations.**

2) Note that if the cantus firmus should follow itself in turn, ascending from line to space or conversely, and [if it] ascends ten, or twelve notes by step, then we ought to make the second voice by third and fourth lower, which is the same as saying by sixth and fifth higher, and this is true in ascending. 3) In descending, however, we ought to syncopate by third and second lower, that is to say, by sixth and seventh higher, so that the penultimate minim may be a sixth thereafter coming to the unison, which is the same [as] an octave, as is clear in the example:

Ex.66-1:
* The notes in the fifth and sixth measures of the last example should be changed from B D C E to F B G C.
IX 1) **What follows concerns the tones.**

2) Tone, as it is taken here, is a certain rule which distinguishes among all melodies, and I say properly "among all melodies," whether *firmus* [plainchant] or *figuratus* [polyphony].

3) According to the blessed Gregory there are eight tones, because just as in the heavenly Curia it is proper to praise Christ by the eight Beatitudes, thus it is proper for the Curia on earth to praise Christ himself by eight tones.

4) Of these tones, four are masters, and four are disciples.

5) The four masters are named in Greek: [Protus] authentic, [deuterus] authentic, tritus authentic, and [tetrardus] authentic.

6) This is to name the [protus] authentic as the first master tone, [deuterus] authentic as the second master tone, tritus authentic third master tone, and [tetrardus] authentic as the fourth master mode.

7) These four master tones were invented by the Greeks, the four disciples, however, by the Latins, because the first disciple takes its origin from the Greek first master tone, the second disciple takes its origin from the Greek second master tone, the third disciple takes its origin from the Greek third master tone, the fourth disciple takes its origin from the Greek fourth master tone.

8) Whereby it
follows necessarily that these are eight tones, both masters and disciples, which are called first, second, third, fourth, fifth, sixth, seventh, and eighth by us.

9) Note that these eight tones are recognized in various ways. Sometimes they are recognized by their ascent and descent, sometimes they are recognized by their beginnings, sometimes by their mediants, sometimes by their endings, sometimes by their seculorum. 10) All of these things will be discussed in the following.

11) **Note concerning ascent and descent.**

12) According to the blessed Gregory, who was the originator of all cantus firmi [plainchants], note that these eight tones are divided into masters and disciples; and the teacher himself wishes that the master tones not be able to ascend beyond eight notes above their finals, and likewise that they descend one note below their finals. But the said teacher wishes that a master tone should ascend at least a fifth, as is clear in its effects. 13) Well does the said holy teacher wish that the master tones sometimes descend four notes below their finals and ascend six or seven notes above their finals, as is clear in the Introit, *De ventre matris meae*, which Introit is sung on the feast of Saint John.
Baptist. The said teacher assigns such a natural rationale, because just as it sometimes happens to ascend naturally, and sometimes it happens to descend a bit at pleasure, thus the master tones ought to ascend according their nature, but at their pleasure are able to descend, not by diminishing their ascent.

14) Concerning the disciples, however, it is not so, because disciples naturally descend, but cannot ascend. 15) And note that according to the blessed Gregory, such disciple tones can [ascend] naturally only four notes above their finals and descend four or five notes below. 16) It is quite true, according to the blessed Gregory, that disciple tones can sometimes ascend by licence up to the sixth note [above the final], but this rarely.

17) What follows concerns the opinion of others concerning the ascent and descent of the tones, etc.

18) The opinion of others concerning the ascent and descent of the tones.

19) Note that according to others, master tones can ascend up to the tenth pitch above their finals, in the same way that they descend four notes below their finals. 20) Such can be understood in melody that is figured or organal,
or in melody that is prosaic or of prose, that is, of sequences, and not in Gregorian cantus firmus [plainchant], as is clear in this verse concerning the master tones:

21) The first are the seventeenth, fifteenth, thirteenth, and tenth pitch, 22) of which one note below governs the end, etc.

23) Here follow verses concerning the disciples.

24) Verses concerning the disciples.

25) You will notice the sixth with the others above the final,

26) of which the fourth note below governs the end.

27) Here follows the opinion of others.

28) The master tones, according to some [musicians], ascend nine notes above the final, which [authors] call the aforesaid master tones odd, as they are first, third, fifth, and seventh tones which descend one note below the final.

29) The disciples, according to these authors, can ascend up to the seventh pitch, in the same way that they descend four pitches below their finals, as is clear from the verse concerning the master tones:

30) Odd ascends a ninth, and descends to the bottom.

31) Concerning the disciple tones.
32) While it rises to the sevenths, it descends fourths to its foundation.
33) And thus concerning ascent and descent of tones these words should suffice.
34) The eight tones, however, can be recognized by their beginnings, as is clear from the following verses:

35) The first with sixth [tones] always should have fa sol la;
36) The third and eight [tones], the ut re fa, and so, too, the second [tone];
37) la sol la the fourth [tone]; ut mi sol would be the fifth [tone] for you;
38) The seventh [tone] fa mi fa sol. Thus I recall all of these to be.
39) Here follows the explanation of these verses.

40) The meaning of these lines is such, that the first and sixth tones agree in the fact that they are begun in a similar way, that is, by these three voices, fa sol la, with fa appearing naturally on F fa ut grave. 41) The third, and the eighth, and the second agree in the fact that they are begun by these three pitches, ut re fa, but they differ from each other, because ut re fa of the second tone is begun in
C fa ut grave, [but] ut re fa of the third tone and the eighth tone is begun in the hexachord with the second square, which is called G sol re ut grave. 42) The fourth tone takes its beginning in these three pitches, la sol la, with la appearing on A la mi re acute. 43) The fifth tone takes its beginning in ut re mi sol, with ut appearing on F fa ut grave, and this with a b flat. 44) The seventh tone takes its beginning in these four pitches, fa mi fa sol, with fa appearing on C sol fa ut acute with a hard B.

45) What follows concerns the mediant [cadences] of these same tones, concerning which these verses are given:

46) The seventh and sixth, and also the first [tone] give fa mi re mi;

47) The fifth and eighth [tones] give fa sol fa, and so, too, the second [tone];

48) sol fa mi fa is given by the third [tone], and ut re mi re by the fourth [tone].

49) The meaning of these verses is that the seventh, sixth and first tones agree in that they are mediated by these four pitches, fa mi, re mi, but differ from each other,
because the seventh tone takes its fa in F fa ut acuto, the first and sixth tones take their fa in B fa b mi acute, and this by B-flat. 50) And moreover, it should be noted that the first and sixth tones agree in their beginnings and their mediants; they differ, however, in their final, as will be shown, or in their seculorum. 51) The fifth, eighth, and second tones agree in that they are mediated by these three pitches, namely, fa sol fa, but they differ from each other, because the fifth and the eighth take their fa in C sol fa ut acute, while the second tone takes its fa in F fa ut grave. 52) The third mode makes mediant by these four pitches, sol fa mi fa, taking its sol in D la sol re acute. 53) The fourth tone makes its mediant by these four pitches, ut re, mi re, taking that it in G sol re ut grave, and this by square b. Thus, concerning the mediants of these tones, these words should suffice.

54) **What follows concerns the final of the tones.**

55) Note that the final of these tones can be manifold, namely, a natural or regular final and an unnatural or irregular final, concerning which final verses are given in order. 56) First, concerning the regular or natural final:
57) The singer distinguishes the final of all tones,  
58) D contains the final of the first and second tones,  
59) the third is governed by E, which is [also]  
taken as the final of the fourth;  
60) the fifth places F as its final, and the sixth also  
the same,  
61) the seventh and eighth end in a single G.  

62) The meaning of these verses is that the first and  
second tones are ended in D grave, namely, in D sol re, and  
this naturally. 63) The third and fourth are ended in E la  
mi grave naturally. 64) The fifth and sixth are ended in F  
fa ut, namely, in F fa ut of the natural hexachord. 65) The  
seventh and eighth are ended in G sol re ut grave naturally  
or regularly.  

66) Here follow other verses concerning irregular  
finals, etc.  
67) A may be the final of the first as well as the  
second,  
68) You may join, not separate, the third and the fourth  
with B,
69) the fifth is found on C, the sixth connected to it;
70) D subsumes the seventh and additionally the eighth.

71) The meaning of these verses is that the first and second modes are ended irregularly or unnaturally in A la mi re acute, and this by square b. 72) The third and fourth are ended irregularly or unnaturally in B fa (b) mi acute, and this [by] square h. 73) The fifth and sixth are ended irregularly or unnaturally in C sol fa ut acute. 74) The seventh and eighth are ended in D la sol re irregularly, and concerning irregular finals these things are sufficient.

75) Here follow other verses.

76) Concerning both the regular and irregular final, and at the same time a certain exception of the fourth mode.

77) The first and second modes are in D or in A;
78) The third and fourth are found in E or in B
79) Sometimes, however, we saw the fourth be ended in A,
79) located thus via b flat;
81) The fifth and sixth are placed in F or C.
82) The seventh and eighth end in G or in D.

83) The meaning of these verses is that the first and second modes are ended regularly or naturally in D sol re, irregularly and unnaturally in A la mi re acute. 84) The third and fourth are ended regularly or naturally in E la mi grave, but are ended irregularly or unnaturally in B fa (b) mi acute. Sometimes we have seen the fourth mode be ended in A la mi re acute, but then it is said "mi" in A la mi re with b-flat, and the said fourth mode ought to hold at that time its own proper mediant, namely, D la sol re, saying "re" in ut re mi re. 85) The fifth and sixth mode are ended naturally in F fa grave, but are ended unnaturally or irregularly in C sol fa ut acute. 86) The seventh and eighth are ended regularly or naturally in G sol re ut grave, unnaturally or irregularly in D la sol re acute. Thus, concerning both the regular and irregular final of the mode, these words should suffice.
Here follow other verses concerning the recognition of the modes by their seculorum, and they are as follows here:

The first re la, the second re fa, the third mi fa, the fourth also mi la,

the fifth fa fa, the sixth fa la, the seventh ut sol, the eighth holds ut fa.

The meaning of these verses is that if the first mode, or an antiphon, a responsory, or introit of the first mode is ended in re, its seculorum is begun at the fifth pitch, which is called la. If the second mode, or an antiphon, a responsory, or introit of the second mode is ended in re, its seculorum is begun at the third pitch, that is, the third pitch that is called fa. If the third mode, or an antiphon, etc., is ended in mi, then its seculorum is begun at the sixth pitch, which is called fa.

If the fourth mode, or an antiphon, etc., is ended in mi, its seculorum is begun at the fourth pitch, which is called la. If the fifth mode, or an antiphon, etc., of the fifth mode, is ended in fa, its seculorum is begun at the fifth pitch, which is called fa with square b. If the sixth mode, or an antiphon or responsory of the sixth mode is
ended in fa, its seculorum is begun at the third pitch (above), which is called la. 96) If the seventh mode, or an antiphon, a responsory, or introit, etc., of the seventh mode is ended in ut, its seculorum is begun at the fifth above, which is called sol. 97) If the eighth mode, or an introit or antiphon, etc., of the eighth mode is ended in ut, its seculorum is begun at the fourth pitch above, which is called fa.

Ex.67:
Part III: Commentary

Chapter I. Theories of Mensuration and Proportion

As its first sentence indicates, De Preceptis artis musicae is a concise handbook designed to provide information concerning the theory and practice of music of its time: Guilielmi Monaci cantoris integerrimi ac viri eruditissimi de praeceptis artis musicae et practicae compendiosus libellus feliciter incipit (I, 1). The treatise consists of nine chapters dealing with the most common topics of fifteenth-century music and music theory, such as notation, fauxbourdon and gymel, counterpoint, and mode.

Guilielmus presents an extensive and systematic survey of notational theory in the first three chapters and also in the seventh chapter of his work. Notational figures and proportional theory are discussed in the second and third chapter, respectively; his discussion of mensuration signs is presented in the first and seventh. While the first chapter provides fundamental information on the basic mensuration signs and musical notation needed by practical musicians, the seventh chapter deals with the complete array of mensuration signs, some sixty types in all.
In the first chapter Guilielmus gives a brief treatment of single notes, ligatures, the rule of alteration, imperfection, two kinds of puncti, and coloration. It begins by presenting the principal mensuration signs in a very concrete, clear fashion. In describing these, Guilielmus explains their meaning and provides information as to the relationships of all levels of notes in each mensuration. He does not, however, differentiate between the meaning of the sign 🌱 and that of 🌷, or between 🌱 and 🌷.

( قولون al gronomis imperfecti in quo est numerus binarius in semibrevis, hoc est, brevis, □ valet duas semibreves, 🌴; et semibreves praevalent tres minimas, ut hic: □ | 🌴; 🌴| 🌴. (I, 10)

( قولون is the sign of imperfect [tempus], major [prolation], in which there is a binary number in semibreves; that is, a breve □, is worth two semibreves; 🌴; and a semibreve is worth three minimas, as is seen here: □ | 🌴; 🌴| 🌴.)

The following table shows the mensuration signs and the temporal relationships between different levels of notes in each mensuration as Guilielmus discusses them (see Table 1).

In the following passage, however, Guilielmus contradicts himself by saying that all reverse signs are made by half.¹

Nota quod omnia signa reverse facta sunt per medium antecedentis, ut hic patet in signis sequentibus:

(Nota that all signs reversed are made half of their antecedents, as is shown in the following signs: )

¹For the detailed discussion of these reversed signs, see Chapter VII, 19 & 40.
Guilielmus states that there are five principal notational figures: maxima, longa, breve, semibreve, and minim.\(^2\) The semiminim and half-semiminim, moreover, are derived from the minim.

Nota quod quinque principales sunt figurae, scilicet, maxima [], longa [], breve [], semibrevis [\()\), et minima [\(). Semiminima autem et dimidia semiminima extrahuntur a minima, ut hic patet inferius: [\()\) (Note that there are five principal figures, namely, maxima [], longa [], breve [], semibreve [\()\), and minim, [\(). Moreover, the semiminim and half-semiminim are derived from the minim, as is clear below: [\()\).}

Guilielmus goes on to state that there are five types of rests. This statement notwithstanding, he enumerates six types of rests in the text, then gives seven types of figures and their corresponding rests in the example.\(^3\) Because Guilielmus considers the semiminim and half-semiminim rests

\(^2\)During the course of his discussion Guilielmus uses both the terms figura and nota as designations for notational figures. In the first chapter he always uses the term figura. In the discussion of the proportional theory in the third chapter, however, he uses nota.

\(^3\)The longa rest given in the manuscript appears to be a rest of an imperfect longa (f. 2v). Seay misreads it as a perfect longa (CSM vol. 11, p. 16).
to be derived from the minim rest, he does not include these two types of rest among the principal ones (see Example 1).

Nota quod quinque [principales] sunt pausae, scilicet, pausa maximae, pausa longae, pausa brevis, pausa semibrevis, pausa minima, pausa semiminima, etc., . . . . (I, 18)
(Note that there are five [principal] rests, namely, the rest of a maxima, the rest of a longa, the rest of a breve, the rest of a semibreve, the rest of a minim, the rest of a semiminim, etc., . . . .)

Ex. 1 (Ed. Ex. 2):

After the introduction of the signs, figures, and rests, Guilielmus provides general rules for the interpretation of figures and ligatures with a tail.⁴ As he notes in the text, a figure with a downward or upward tail extending from the right side is a longa or a maxima. A ligature with a

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⁴The rules for ligatures are based on the principles given by Franco of Cologne, Ars cantus mensurabilis (ed. Gilbert Reaney and André Gilles, CSM vol. 18, p. 44): Item ligaturarum alia cum proprietate, alia sine, alia cum opposita proprietate; et hoc a parte principii ligaturae. A parte autem signis: alia cum perfectione, alia sine.
A downward tail from the left side of the initial note (cum proprietate) indicates that the first note is a breve, and a ligature with an upward tail on the left side of the initial note (cum opposita proprietate) means that the first note is a semibreve. Following this, Guilielmus describes two types of puncti: a punctus of augmentation and one of division. The punctus of augmentation is discussed again in the second chapter.

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5Omnis ligatura descendens tractum habens a primo punctu descendentem a parte sinistra, cum proprietate dicitur, eo quod sic in plana musica figuratur, . . . . (Franco, Ars cantus mensurabilis, p. 47)

6Ite omnis ligatura tam ascendens quam descendens, tractum gerens a primo puncto ascendentem, cum opposita proprietate dicitur, . . . .(Franco, Ars cantus mensurabilis, p. 21)

Seay notes that Guilielmus's description of the ligature cum opposita proprietate is unorthodox (CSM vol.11, p. 16, fn. 4), perhaps because Guilielmus does not specify the second note as a semibreve. In the second chapter, Guilielmus gives two possibilities for interpretation of cum opposita proprietate under different mensurations; one for perfect tempus and one for imperfect tempus. The reason that Guilielmus does not mention that the second note of the ligature is also a semibreve becomes clear in the description of cum opposita proprietate under perfect tempus. In this mensuration, the actual note value of the second note is an imperfect breve (see chapter II, 4 and fn. 10).

7See Chapter II, 6
After Guilielmus describes two types of puncti, he proceeds to the discussion of five basic signs that indicate three levels of mensuration: modus, tempus and prolation.\(^8\)

Nota quod quinque sunt litterae sive signa per quas vel quae cognoscitur omne organum, scilicet: \(\text{O} \text{C} \cdot 2 3\) (I, 26)
(Note that there are five letters or signs through or by means of which all organum is understood, namely: \(\text{O} \text{C} \cdot 2 3\))

In the following passages Guilielmus discusses imperfection and alteration, illustrating his points with examples. He demonstrates the imperfection of a maxima, longa, and breve under different signs of mensuration, and shows unequivocally the value of the notes by providing the number of semibreves above each note (see example 2).

\(^8\)More detailed discussion of mensuration signs appears in the seventh chapter. The discrepancies between the description of figures '2' and '3' in the first chapter and that in the seventh chapter will be discussed below (see footnotes 48-55 and the text associated with them).
In the second chapter, "concerning the diversity of figures," Guilielmus explains the value of each ligated note and that of a dot. The description of notational figures is very brief, but clear. As was noted earlier, Guilielmus here presents the discussion of a ligature with opposite propriety (*ligatura cum opposita proprietate*), suggesting two possibilities of interpretation for this ligature under different mensurations. In fact, Guilielmus does not oppose the notion that the first two notes of this ligature are semibreves. What he is mainly concerned with here and in the previous chapter is the actual value of the ligated notes as determined by a mensuration sign. If a

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*cf. fn. 6 above.*
ligature with opposite propriety appears under the mensuration of perfect tempus, the first note is a semibreve, but the second one would be an imperfect breve.\textsuperscript{10} If this ligature appears under the mensuration of imperfect tempus, then the first two notes are semibreves. To illustrate the meaning of ligatures, Guilielmus specifies the values of individual notes in each ligature (see Example 3).

Ex. 3 (Ed. Ex. 11):*

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{example3.png}
\caption{Example 3 (Ed. Ex. 11):*}
\end{figure}

\* The last ligature in measure 2 and the first ligature in measure 7 in the manuscript should be changed to $\frac{3}{8}$ and $\frac{5}{8}$, respectively.

\textsuperscript{10}"Imperfect breve" is Guilielmus's designation for an altered semibreve. One should point out that in the example illustrating the ligatures Guilielmus specifies two semibreves at the beginning of all ligatures with opposite propriety (see Ex. C).
In chapter III, on mathematical proportions and proportional notation, Guilielmus deals with the most common and simplest proportions, providing numerous musical examples as well.\footnote{This subject is treated more comprehensively by Tinctoris and Gaffurius. For each category of proportions, they go beyond the treatment of Guilielmus. For each individual proportion, however, they do not give as much detail or provide extended examples, as does Guilielmus.} This would suggest that Guilielmus's intention was to help practical musicians obtain a proper understanding of complicated proportional theory, rather than to write a work for theorists. His presentation of each proportion is not lengthy, but is quite comprehensible.

The system of proportional notation was widely used in the fifteenth century by composers such as Obrecht, Ockeghem, Josquin, and Isaac. Although this system was frequently discussed by many theorists in Guilielmus's time, it was and has remained one of the most problematic aspects of Renaissance music among theorists and practical musicians.\footnote{For an excellent survey of proportional notation, see Anna Maria Busse Berger, Mensuration and Proportion Signs: Origins and Evolution. See also Willi Apel, The Notation of Polyphonic music, 5th ed. (Cambridge: The Medieval Academy of America, 1953), J. A. Bank, Tactus, Tempo, and Notation in Mensural Music from the 13th to 17th Century (Amsterdam, 1972).}

According to Willi Apel, the earliest work to treat of proportions is a tract from the mid-fourteenth century, the
**Libellus cantus mensurabilis secundum Johannes de Muris.**

Without using the term *proportio* itself, this treatise gives a description of proportional diminution in chapter 9, under the title *De diminutione mottetorum*, in which de Muris discusses the diminution of note values in the ratio 2:1 and 3:1.14 In the two centuries that followed, many theorists, such as Prosdocimus de Beldemandis (1408),15 Johannes Tinctoris (1475),16 Franchinus Gaffurius (1496),17

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13Apel, The Notation of Polyphonic music, p. 145.

14Primo, quod pro maxima sepe in diminutione ponitur longa, pro longa brevis, pro brevi semibrevis, pro semibrevis et minima; . . . quando tenor est de modo imperfecto, sive fuerit de tempore perfecto vel imperfecto, diminutio sit solum directe per medietatem notarum et pausarum; . . . quando tenor est de modo perfecto et tempore imperfecto, etiam diminutio sit directe per medietatem. . . .(Johannes de Muris, "Libellus cantus mensurabilis," CS III, p. 58).

15Berger says that it is Prosdocimus de Beldemandis who first gives a theoretical explanation of proportion signs ("The Origin and Early History of Proportion Signs," in JAMS, 1988, p. 403). In his *Tractatus practice cantus mensurabilis*, Prosdocimus discusses dupla, tripla, sesquialtera, sesquitertia, and dupla sesquiquarta proportions, and provides the signs (proportional figures) to indicate these proportions: *Isto premisso dico, quod si cantare volumus in proportione dupla vel duas pro una, tale debemus ponere signum. . . . Si vero discantare volumus in proportione dupla sesquiquarta vel novem pro quatuor, tale debemus ponere signum. . . .* (CS III, pp. 218-219).

Adrian Petit Coclico,18 Martin Agricola (1532),19 and Nicolaus Listenius (1549)20—in addition to Guilielmus—discussed the system of proportions. Most of them, however, sought to explain proportional theory from the standpoint of theorists and mathematicians. Guilielmus's discussion of proportions, on the other hand, is of prominent importance for its simplicity and clarity, and in its deep concern for the practical application of proportional theory by musicians. As a theorist and practical musician himself,21 Guilielmus was apparently one who felt the necessity of clear and concise


21He is described in the introduction to this treatise as a "most skilled singer".
explanation of the system of proportions for singing and playing musicians.

Guilielmus begins this section of his treatise with the classification of five species of proportions of greater inequality: there are three simple species--multiplex, superparticular and superpartiens--and two composite ones--multiplex superparticular and multiplex superpartiens. This system of proportions is based on the tradition of Boethius.

Chapter III can be divided into two parts. The first part is characterized by purely theoretical definitions of each proportion, e.g.:

Proportio multiplex dicitur quando maius continet minus pluries precise, sicut proportio duorum ad unum. (III, 5)
(Proportion is said to be multiplex when the larger

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22"Greater inequality" refers to positive ratios, in which the numerator is greater than the denominator, such as 2/1, 3/2. The "lesser inequality" that will be discussed later in the same chapter refer to negative ratios, in which the numerator is less than the denominator, such as 2/3, 3/4.

[term] contains the smaller one exactly several times, such as the proportion of two to one.)

Proportio superparticularis est quando maius continet minus semel et non pluries et cum hoc partem aliquotam minoris, sicut est proportio trium ad duo, . . . . (III, 8)

(A proportion is superparticular when the larger [term] contains the smaller once and no more, and together with this an aliquot part of the smaller [term], such as the proportion three to two, . . . .)

The species of proportions of lesser inequality are treated very briefly:

Notandum quod ad habendum tot species proportionis minoris inaequalitatis, non expedit nisi addere supradictis nominibus et speciebus subdicendo submultiplex, [sub]superparticularis, [sub]superpartiens. (III, 35)

(It should be observed that for understanding as many species of proportions of lesser inequality, it is useful to add to the above-mentioned names and species the submultiplex, [sub]superparticular, and [sub]superpartiens to be discussed below.)

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24 According to Boethius, a 'term' is a numerical whole used in a ratio (Bower, Boethius: Fundamentals of Music, p. 65).
In the second part of the chapter, however, Guilielmus approaches the subject matter from a more practical point of view, introducing apt musical examples to aid the reader's understanding.

*Sequentur aliquae proportiones diversarum prolacionum exemplariter notata ad habendum faciliorem earum cognitionem,* . . . (III, 41)
(There follow several proportions of diverse prolations notated in examples for acquiring a more ready understanding of them.)

Even though Guilielmus lists numerous kinds of proportion in the first part of his discussion of this subject, in the second part he deals only with the most basic proportions, such as dupla, tripla, quadrupula, sesquialtera, sesquitertia, and their inversions. The value of this second part lies in its detailed manner of presentation as well as the musical examples it uses for demonstration. Unfortunately, many errors appear in the original notation of the manuscript, thereby requiring appropriate emendations.²⁵

²⁵One should also be aware that in certain cases Professor Seay made mistakes in reading the original notation. Mistakes and emendations have been indicated in both the translation and commentary of individual examples.
Each proportion in various mensurations is approached systematically. In order to indicate the proportions, Guilielmus uses mensuration signs, figures and coloration of the note. He starts with the sesquialtera proportion in perfect tempus, minor prolation, which is indicated by the figure ‘3’.26

Sexquialtera super perfecto minore exigit ut minimae numerentur ternae uti numerantur minimae temporis imperfecti maioris, et eodem modo minimae alterantur ante semibreves, et ut ibidem semibreves sunt imperfectae ante minimas ponunturque tres minimae pro singulo ictu pausae communis semibrevis, . . . . (III, 42)

(Sesquialtera in perfect [tempus], minor [prolation] requires that minims be numbered in threes just as minims of imperfect tempus, major [prolation] are

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26Guilielmus indicates the sesquialtera proportion by means of a proportional figure ‘3’ instead of 3/2 which is more common among theorists (see Example D below). Tinctoris, in his Proportionale Musices (CS IV, p. 156), criticizes the incorrect use of a figure ‘3’ as proportional sign: "That is the reason why an unpardonable mistake of Ockeghem causes confusion. For he did not only supply his pastoral song 'L'autre dantan' - which was written in equal values in all the voices - with a proportional sign, but even with a sign which is given by some to proportio tripla, by others simply to proportio sesquialtera, and this more over wrongly, as O3." (translated by Bank in Tactus, Tempo and Notation in Mensural Music, p. 163). Gaffurius also opposes indicating a proportion with only one number, e.g., sesquialtera with '3', because the '3' not only indicates sesquialtera proportion, but can also indicate triple and subsesquiquartia proportion. (Miller, Practica Musicae, p. 156).
numbered, and in the same way minims are altered before semibreves, and at the same time semibreves before minims are imperfected. Three minims are put in place of the single ictus of a common semibreve rest, . . . .

This passage suggests that every note in sesquialtera proportion is diminished by a third. In describing the time value of a minim, Guilielmus speaks in terms of the ictus as measured by a rest. He equates the time value of three minims in sesquialtera section to one ictus of a common semibreve rest. The reason that Guilielmus specifies a common semibreve rest instead of a semibreve note is that the

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Guilielmus uses the term ictus in the sense of tactus. Even though he does not give the explanation of ictus, the notion of temporal unit exists in itself. The term tactus had already appeared in writings of Antiquity and earlier Middle Ages, but was used in different senses: Voces ut chordae sunt intentae, quae ad quemque tactum respondeant, . . . . (Cicero, De Oratore 3, 57, 216); Naturalis . . . musica est, quae nullo instrumento musico, nullo tactu digitorum, nullo humano impulsu aut tactu resonat, . . . . (Regino Prumiensis, "De Harmonica Institutione," in Martin Gerbert, ed., Scriptores ecclesiastici de musica sacra pottissimum [hereafter, GSp], 3 vols. [Typis San-Blasianis, 1784; facsimile ed., Hildesheim: Georg Olms, 1963], I, p. 233). Here tactus means "to grasp, to touch, to perform. The term tactus referring to the unit of time-measurement was first used by Adam de Fulda in his treatise De Musica (1490). (Cf. Wolf Frobenius, "Tactus," in Handwörterbuch der musikalischen Terminologie [hereafter, HMT].)
note value of semibreve can be varied before or after a minim in major prolation, while the value of a semibreve rest is unchangeable, not being susceptible to being diminished or augmented. In the accompanying example, Guilielmus or the scribe omits the mensuration sign of perfect tempus, minor prolation after the sesquialtera section (see Example 4).

Ex. 4 (Ed. Ex. 12):*

* In order to cancel the previous sesquialtera proportion, the mensuration sign 3 should be inserted four measures before the end of the tenor. Three semibreves under the sign 3 (sesquialtera proportion) are equal in duration to two semibreves under the sign 0.
The second description is of black sesquialtera in
perfect tempus, minor prolation.

Sexquialtera nigra super perfecto minore exigit secundum
quosdam ut numerentur semibreves binae, et numerus finiet
in sex. Secundum alios autem exigit ut minimae
numerentur trinae, . . . . (III, 43-44)

(According to certain authors, black sesquialtera in
perfect [tempus], minor [prolation], requires that
semibreves be numbered in twos, and that the number end
in six. According to others, however, it requires that
minims be numbered in threes, . . . .)

As his text noted above, Guilielmus indicates the
sesquialtera proportion by the use of black solid notes. The
value of three black minims is equivalent to that of two
white minims (see example 5).

The next passage describes sesquialtera proportion
within imperfect mensuration (imperfect modus, or duple
imperfect tempus, minor prolation).  

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28Here, Guilielmus's term for notational figure is
nota.

29Many other theorists discuss the sesquialtera
proportion. Among them are Ugolino of Orvieto (ed. Albert
Seay, Declaratio musiceae discipliniae, CSM vol. 7, II, p.
210), John Hothby (ed. Gilbert Reaney, Regulae cantus
mensurati, CSM. vol. 31, p. 54), Tinctoris (Proportionale
Musices, CS IV, pp. 158-161), Gaffurius (Miller, Practica
Musicae, pp. CS IV, 174-184), and Pietro Aaron (Lucidario,
[Venice 1545; facsimile ed.], New York: Broude Brothers
Ex. 5 (Ed. Ex. 13):*

* The dot after the tenth note in the tenor of this example in Seay's edition is a semibreve rest as appears in the manuscript. The black semibreve after the white ligature in measure 10 of the tenor should be changed to a white semibreve.

Limited], Bk. 3, ch. 6, pp. 20-21; Toscanello, Bk II, transl., Peter Bergquist [Colorado Springs: Colorado College Music Press, 1970], p. 47). But whereas Tinctoris and Gaffurius, for example, discuss sesquialtera proportion in terms of a group of minims, Guilielmus explains it, in terms of ictus in various mensurations.
Sexquialtera super semi vel de modo imperfecto vel dupla minoris imperfecti exigit ut numerentur semibreves trinae; nigrae vero semibreves, si interponantur, numerentur binae, numerum finientes in sex. . . . (III, 45-46)
(Sesquialtera in semi [i.e., Alla breve] or in imperfect mode or in duple imperfect [tempus]; minor [prolation] requires that semibreves be numbered in threes; but, if black semibreves are inserted, they are numbered in twos, the number ending in six. . . .)\(^{30}\)

Under these mensuration signs, every note should be read and sung as diminished by half: a longa as the value of a breve; a breve as a semibreve, etc (see Example 6).

In the following passages, Guilielmus discusses the use of the blackened notes under the same mensurations.

Sexquialtera nigra eisdem super prolationibus seu mensuris exigit ut nigrae sine signo perdant tertiam partem, quod et in pausis itidem observant, et ulterius non pertendit nisi quantum nigrae perseverant; . . . . (III, 47-8)

\(^{30}\)Bank, in Tactus, tempo and notation in mensural music, p. 161., mistranslates this Latin phrase as "the sexquialtera in 'semiditas', either of Modus [minor] imperfectus or of Tempus perfectum with the figure '2' [C2, O2] . . . ."
The mensuration sign (O2) given in the cantus of this example should be replaced by C2.

(Black sesquialteras in the same prolations or mensurations requires that black [notes] without a sign lose a third part, which they also observed in the same way in rests, and this does not continue any further then the black notes persist; . . . .)

The text and accompanying examples show that black notes and rests under the same mensuration indicate sesquialtera proportion, in which black notes and rests lose one third of their normal duration (see Example 7).
In this example, two white semibreves are equal in duration to three black semibreves.

* The subsesquialteras proportion is discussed in the next passage. Here, Guilielmus indicates the proportional change by means of the numerical ratios 2/3. In example 21, after the subsesquialteras section, Guilielmus uses a black-note ligature at the end instead of indicating the original mensuration sign (see Example 8).  

\(^{31}\) Tinctoris and Gaffurius discuss subsesquialteras, subsesquitertias, etc., i.e., proportions of lesser...
The breve in the subsesquialtera proportion, which is now worth two semibreves, is equal in duration to three semibreves under the preceding sign $. The second note of the ligatures (ligatureae cum opposita proprietate) in the fifth and sixth measures is altered.

After the discussion of the sesquialtera proportion and its inversion, Guilielmus proceeds with a description of successive proportions: first, duple proportion after sesquialtera.

inequality, in a separate chapter, while Guilielmus discusses each proportion and its inverted version as a group. Tinctoris's and Gaffurius's descriptions of these proportions are very brief as compared with their discussions of superparticular and multiplex proportions. However, each of the proportions of lesser inequality receives impartial treatment by Guilielmus.

The most detailed discussion of successive proportions among fifteenth-century theorists is that given by Gaffurius. In his Practica Musicae (Bk. IV, Chap. 13),
As examples 22 and 23 illustrate, the two consecutive proportions are cumulative. In the sesquialtera passage one semibreve, which is worth two minims under the sign 0, is worth three minims. In dupla after sesquialtera, one breve is equivalent to a semibreve of the preceding sesquialtera proportion; hence, it is worth three semibreves. Consequently, the cumulative ratio between the passage under the sign 0 and that of dupla results in three to one (triple proportion: $3/2 \times 2/1 = 3/1$). One semibreve under the sign 0

Gaffurius states that various proportions following each other in succession are reckoned according to the proportion directly preceding (Miller, Practica Musicae, pp. 234-236). Successive proportions are also mentioned by Tinctoris, at the very outset of his treatise: quodquidem dupliciter contingit, vel quando notas sequentes ad praecedentes in una et eadem parte cantus immediate referemus, . . . . . ("Proportionale musices," CS IV, p. 155; Seay transl. pp. 3-4).

Examples 22 and 23 of the edition appear as Examples I and J below.
equals three semibreves in the section of dupla after sesquialtera (see Example 9 and 10).

Ex. 9 (Ed. Ex. 22):*

* The fifth notes of measure 4 in both soprano and tenor part are altered semibreves. The dots that appear after the first and fifth notes in m. 5 of the upper part are points of augmentation. On the other hand, the dots after the third note of m. 4 and the fourth note of m. 5 in the tenor part are points of division.
In this example the breve rest that appears in m. 13 of the upper part should be eliminated. The last note in the sesquialtera section of the tenor should be emended from a minim to a semibreve (m. 7).

The following description is of dupla after sesquialtera in $\frac{\text{C}}{2}$, O2, and C2. In each case, the cumulative proportion between the section under the original mensuration ($\frac{\text{C}}{2}$, O2, and C2) and that of dupla after sesquialtera results in triple proportion (see Ex. 11).
Ex. 11 (Ed. Ex. 24):*

* The breve after the ligature (the third note in m. 11) of the upper part should be changed to a longa.

After Guilielmus has explained the various cases of sesquialter a proportion, he turns to discuss the sesquitertia proportion.

Sesquitertia super imperfecto maiore exigit ut notae albae cantentur eodem modo quo canitur semi, videlicet, quod ponantur duae semibreves pro singulo ictu pausationis, et si venerint notae nigrae, ponantur sex
minimae pro singulo ictu pausationis, . . . , cuius hoc signum est: ☪. (III, 54)

(Sesquitertia in imperfect [tempus], major [prolation] requires that white notes be sung in the same manner in which semi is sung, i.e., two semibreves are placed in the single ictus of a [common semibreve] rest, and if black notes enter, six minims are placed in the single ictus of a rest, . . . , The sign of this is: ☪.)

This description, concerning the mensuration sign ☪ as the sign for sesquitertia proportion, is rather obscure and requires some explanation. Several theorists, including Guilielmus, mention the sign ☪ as the indication of sesquitertia proportion.34 However, the interpretation of this sign depends upon how it relates to other signs. When it stands by itself, or appears after the sign of imperfect

34E.g. Hothby, Ugolino, Adam de Fulda, and Aaron (Cf. Berger, Mensuration and Proportion signs, pp. 62-72). However, both Tinctoris and Gaffurius oppose the use of the mensuration sign ☪ to indicate sesquitertia proportion. Gaffurius criticises the use of this sign as follows: "Some musicians have desired that this sesquitertia be understood in music by the sign of imperfect tempus turned backward like this: ☪. Prosdocimus of Padua, in the presentation of his brief work on Johannes de Muris' 'Quilibet in arte practica,' and Tinctoris, in his tract on proportion, sharply assails this practice" (Miller, Practica Musicae, pp. 156 & 186).

In fact, Gaffurius raises objections to any use of mensuration signs for the indication of proportions. He specifies that each proportion should be indicated by numbers in order to show the exact numerical relationship of notes.
tempus, minor prolation \( \mathcal{C} \), it means a duple proportion.\(^{35}\) If it comes after the sign of perfect tempus, minor prolation \( \circ \) or imperfect tempus, major prolation \( \mathcal{C} \), the cumulative result is a sesquitertia proportion. Thus, the first passage can be paraphrased as follows: White notes under the sign \( \circ \) should be sung as half of those under the sign \( \mathcal{C} \) or \( \mathcal{G} \). Two semibreves (four minims) under the sign \( \circ \) are equivalent to one ictus of a common semibreve (three minims) under the sign \( \mathcal{C} \). Three black semibreves (six minims) are equal to two white semibreves (four minims). Consequently, the resulting ratio between the sign \( \mathcal{G} \) and \( \circ \) is four to three (sesquitertia proportion), and that between the sign \( \circ \) and black notation is six to four (sesquialtera proportion) at the minim level (see Example 12).

\(^{35}\)In chapter VII (De cantu organico), Guilielmus explains the sign \( \circ \) as equivalent to the sign \( \phi \), which is half of the sign \( \mathcal{C} \) (see Ch. VII, 19-20). Apel (The notation of Polyphonic Music, p. 147) lists the sign \( \circ \) as the indication of proportio dupla.

Curt Sachs, Rhythm and Tempo: A study in Music History, p. 213, says that "the reversed semicircle - known from Guilielmus's treatise as the symbol of proportion dupla - indicates proportio sesquitertia in Adam of Fulda's Musica of 1490." However, as is stated in the text and used in his accompanying examples (Exx. 27-30), Guilielmus regards the reversed semicircle both as an alternative sign for sesquitertia proportion and as an indication of duple proportion.
The last note of measure 4 in the tenor is a semibreve, not a minim. The last note of measure 7 and the first three notes of the following measure should be changed from E F A B to F G B C. The second note in measure 15 of the upper part should be changed from E to F.
The next two passages concern sesquitertia in perfect tempus, minor prolation, and the same proportion in semi. The proportion is indicated here by the numerical ratio 4/3. In explaining both cases, Guilielmus mentions that four semibreves (or breves in semi) of proportion should be placed for three of the prolation (see Example 13).

Sexquitertia super perfecto minore exigit ut ponantur quatuor semibreves proportionis super tribus prolationis, . . . (III, 55)  
(Sesquitertia in perfect [tempus], minor [prolation] requires that four semibreves of the proportion be placed for three of the prolation, . . . .)  
[my underlining]

Sexquitertia super semi exigit ut ponantur quatuor breves proportionis super tribus prolationis, . . . . (III, 56)  
(Sesquitertia in semi requires that four breves of the proportion be placed for three of the prolation. . . .)  
[my underlining]

In previous discussions, Guilielmus usually described the proportional ratio between two different mensurations by comparing the number of semibreves between them. In these two passages, however, he describes the relationship of notes between two mensurations in a different way. He explains
Ex. 13 (Ed. Ex. 31):*

* The mensuration sign in both parts should be changed from $\Phi$ to $\breve{\Phi}$.

their ratio in terms of proportio and prolatio.\(^{36}\) It appears that proportio here refers to the sesquitertia proportion itself and prolatio refers to subdivision of the semibreve, which receives the ictus.\(^{37}\) Thus, the first passage can be

\(^{36}\) In his discussion of sesquialtera proportion, Gaffurius describes the proportion in terms of both proportion and prolation: "There are some who show sesquialtera proportion with the sign of prolatio perfecta, that is, with a dot within the sign of tempus, as in $\breve{\gtrless}$, and who think there is no difference between prolatio and proportio. This is refuted above all by an examination of the ratio, for proportio sesquialtera equates three minims with two, while prolatio perfecta equates three normal minims with one semibreve and does not measure three minims with two." (Miller, Practica Musicae, p. 179)

\(^{37}\) In preceding examples the proportion was at the minim level.
understood as "Sesquitertia in perfect [tempus], minor [prolation] requires that four semibreves of the sesquitertia proportion be placed for three semibreves [of the preceding mensuration]."

The following passages refer to the subsesquitertia proportion, which is indicated by $3/4$. This proportion signifies that the time-value of four semibreves in the preceding mensuration is equal to that of three semibreves under the sign $3/4$.

Subsexquitertia exigit ut ponantur tres proportionis super quatuor prolationis, si enim contigerit venire super perfecto minore, cantantur minimae eodem modo quo canuntur semibreves nigrae temporis imperfecti majoris,. . . . (III, 57)
(Subsesquitertia requires that three of the proportion be placed for four of the-prolation, if it should happen to come in perfect minor; minims are sung in the same manner in which black semibreves of imperfect major tempus are sung,. . . . )

The accompanying example [Ex. 32], which should illustrate the subsesquitertia proportion, does not match the description in the text. The proportional ratio $3/4$ in the example should be changed to a sesquitertia proportional sign. Guilielmus might have misplaced the example or chosen
the example mistakenly because of the subsesquitertia sign (see Example 14).

Ex. 14 (Ed. Ex. 32):

* The proportional ratio 3/4 in the third measure should be changed to 4/3.

The following texts and their accompanying examples [33 and 34] accurately demonstrate cases of subsesquitertia and dupla after sesquitertia proportion, respectively (see Examples 15 and 16).

A second case of a discrepancy between the text and its accompanying example occurs in the description of duple after subsesquitertia proportion. Up to this point in the chapter, Guilielmus has arranged his discussion to treat first the
Ex. 15 (Ed. Ex. 33):*

* The dot after the first longa in the tenor part signifies a punctus of augmentation.

Ex. 16 (Ed. Ex. 34):*

* The blackened minim appearing between the fourth and fifth notes in measure 2 of the upper part in the manuscript seems to be a scribal error. Seay misreads the fourth white minim as a white semibreve (the last note of m.2).
normal proportion and then its inverted version. Here, he begins by stating that the proportion treated will be "duple after subsesquitertia." But specifying that eight breves of proportion should be sung in place of three of the prolation, the text is clearly describing duple proportion after sesquitertia proportion, not after subsesquitertia proportion (see Example 17).

_Dupla post (sub)sesquitertiam \(^{38}\) super semi exiguit ut ponantur octo breves proportionis super tres prolationis, . . . . (III, 60)

(Duple after sesquitertia in _semi_ requires that eight breves of the proportion be put in place of three of the prolation, . . . .)

Ex. 17 (Ed. Ex. 35):*

* The mensuration sign of this example should be O, not ġ. The sign of subsesquitertia (3/4) also should be changed to that of sesquitertia proportion (4/3).

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\(^{38}\)Since the text clearly describes duple after sesquitertia proportion, the prefix "sub" should be removed.
In the section that follows, Guilielmus provides descriptions of multiplex proportion, beginning with the duple proportion in every prolation. In this proportion every note should be read as a half of the written value.

*Dupla in omni prolatione a cantoria subtrahit medietatem, unde maxima cantatur pro longa, longa pro brevi, brevis pro semibrevi, semibrevis pro minima, . . . *(III, 61)

(Duple in every prolation subtracts half from the thing being sung, whence a maxima is sung as a longa, a longa as a breve, a breve as a semibreve, and a semibreve as a minim, . . . .)

In subduple proportion, which is indicated by the ratio 1/2, a notated note value is augmented by two, i.e. the notated value is half of the actual value.

After Guilielmus presents a discussion of triple, quadruple, and subquadruple proportions, illustrating each with an example, he provides several examples that illustrate the various proportions he had already discussed. He reiterates that under the sesquialtera proportion or in black notation three minims are equal to one ictus of a common semibreve rest *(see Example 18).* In the subsesquialtera proportion, the notated note is augmented by a third. The
Ex. 18 (Ed. Ex. 41):*

* The first eleven notes in the upper voice of this example should be notated as augmented notes: 

Instead of 

Perhaps the scribe mistakenly notated the opening section in subdupla (an example in subquadrupla immediately precedes it).
last two examples show the sesquitertia and tripla proportions.

The mensuration signs are treated once more in chapter VII of the treatise, headed "tractatus de cantu organico." Whereas Guilielmus had dealt only with the most basic mensuration signs of fifteenth century notation in the earlier chapter, here he presents a wide variety of these signs, organized systematically. The signs are categorized into ten groups, in which each group is arranged in the order of a circle, a circle with a vertical slash, a semicircle, a reversed semicircle, a semicircle with a vertical slash, and a reversed semicircle with a vertical slash. The first group deals with mensuration signs without a dot; the second group are signs with a dot; the third group without a dot, with a figure '3'; the fourth group with a dot and a figure '3'; the fifth group without a dot, with a figure '2'; the sixth group with a dot and a figure '2'; the seventh group with a dot and two threes (3 3); the eight group with a dot and two twos (2 2); the ninth group without a dot, with figures '3 3'; the tenth group without a dot, with figures '2 2'.

Guilielmus begins with the description of simple signs and proceeds through to the most complex.  

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39 Ramos's term for these signs, which are combined with a figure or two figures, is modus cum tempore (Cf. Berger, Mensuration and Proportion Signs, pp. 148-163).
At the outset of chapter VII Guilielmus presents a description of five mensuration signs that had already been mentioned in the first chapter: the three fundamental signs (O C ⋄) and two figures (2, 3).

Many theorists give descriptions of modus cum tempore signs. Among them are Hothby, Anonymus XII (ed. Jill Palmer, Tractatus et compendium cantus figurati, CSM vol. 35, p. 63), Ramos de Pareja (ed. Johannes Wolf, Musica practica [Leipzig; Publikation der Internationalem Musikgesellschaft, 1901], p. 82), Adam von Fulda ("Musica," GS III, p. 362), Domingo Marcos Duran (Roger Craig Vogel, "The theoretical writings of Domingo Marcos Duran: A Translation and Commentary," [unpublished Ph.D. dissertation, The Ohio state University, 1975], pp. 370-2), Johannes Cochlaeus (Tetrachordum musices, [Nuremberg, 1514; repr. Hildesheim, 1971], Tract 4, ch.5), Nicolaus Listenius, Musica, chap. IV), and Aaron (Lucidario, Bk. III, ch.10). Among these writers, Hothby is probably the first to present a full description of these signs: Et si post circulum vel semicirculum sequitur signum ternarii vel binarii, circulus vel semicirculus denotat longam, et signum sequens denotat brevem; et si post circulum vel semicirculum sequuntur duo signa binarii vel ternarii, circulus vel semicirculus denotat maximam, ternarii vel binarii sequens denotat longam, et tertium signum binarii vel ternarii denotat brevem, ut hic: 03, C3. . . . 022, C33 . . . . (De cantu figurato, ed. Reaney, p. 28; Sequuntur regulae cantus mensurati eiusdem Ottobi, ed. Reaney, p. 21; Regulae cantus mensurati secundum Johannem Otteby, ibid. p. 53-4). Listenius provides a table to show the quantities of notes under each sign. However, he mistakenly writes C2 as (2 2 2 3) instead of (2 2 2 2), and O3 as (3 3 3 2) instead of (3 3 3 2). Both Gaffurius (Practica Musicae, pp. 88-9) and Tinctoris ("Proportionale musices," CS IV, p. 156) object to the use of modus cum tempore signs, because figures '2' and '3' may also imply proportional significance, they are unsuitable to indicate modus minor or tempus.

The Venice manuscript gives O C ⋄ '2' and '3' as the five basic signs here. In the first chapter, however, the five signs are given as O C ⋄ '2' and '3.' Guilielmus states in this chapter that prolation, modus, tempus, and
of these five basic signs, Guilielmus proceeds to say that prolation, modus, tempus, and, to an extent, proportion are recognized by means of them. Moreover, a wide variety of mensuration signs may be derived from these five basic signs, for example, signs combined with a figure 2 or 3, or with two figures, e.g., '2 2' or '3 3'.

First, Guilielmus divides these various mensuration signs into three categories: simple, composite, and more-than-composite (see examples 19, 20, & 21).

illa signa sunt simplicia, ut puta: (VII, 6)
(tese signs are simple, as for example:)

Ex. 19 (Ed. Ex. 63):

![Mensuration sign image]

sive sint illa signa composita, ut patet hoc modo: (VII, 6)
(or these signs are composite ones, as is clear in this manner:)

proportion can be recognized by these five signs. Since prolation can be indicated by the presence or the absence of a dot, the third of three fundamental signs given here should be a dot, not a reversed semicircle.
Ex. 20 (Ed. Ex. 64):^\textsuperscript{41}

\[
\begin{align*}
\text{03} & \text{03} \text{ C3 C3 C3 C3 C3 C3 02 02 C2 C2} \\
\text{C2} & \text{02 02 C2 C2} \text{ C2} \text{ C2}
\end{align*}
\]

sive illa signa sint plusquam composita, ut hoc modo: (VII, 6)
(or these signs are more-than-composite ones, as in this manner:)

Ex. 21 (Ed. Ex. 65):

\[
\begin{align*}
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\text{C33} & \text{C33 C33 C33 022 022 C71 C71} \\
\text{C72} & \text{C72 C72 C72 C72 C72}
\end{align*}
\]

^\textsuperscript{41}Seay misreads the twelfth sign \(\ddagger\) 2 as \(\ddagger\) 2. The scribe lives out \(\ddagger\) 2 before the last sign. The last sign \(\ddagger\) 2 in the manuscript should be changed to \(\odot\) 2 as Seay has emended (ed. Seay, CSM vol. 11, p. 44).
After Guilielmus sets out the signs as described above, he reclassifies them into four groups in the next passage.42

Et notandum quod omnia ista signa vel dicuntur simplicia, ut sunt ista: \( \textcircled{O} \textcircled{C} \), vel composita, sicut sunt ista: \( \textcircled{O} \textcircled{C} \textcircled{D} \) vel plusquam composita, sicut sunt ista: \( \textcircled{O}3 \textcircled{C}3 \textcircled{D}3 \), vel adhuc composita et plusquam composita, sicut sunt ista: \( \textcircled{O}33 \textcircled{C}33 \textcircled{O}33 \textcircled{D}33 \), et sic de singulis. (VII, 7)
(And it should be noted that all these signs are either called simple, such as these: \( \textcircled{O} \textcircled{C} \textcircled{D} \), or composite, such as these: \( \textcircled{O} \textcircled{C} \textcircled{D} \textcircled{E} \), or more-than composite, such as these: \( \textcircled{O}3 \textcircled{C}3 \textcircled{D}3 \), or moreover, composite-plus-more-than-composite, such as these \( \textcircled{O}33 \textcircled{C}33 \textcircled{O}33 \textcircled{D}33 \). So much concerning the individual signs.)

Then, each mensuration sign is described in a manner similar to that which Guilielmus had followed in the first chapter. The meaning of the signs and the temporal relationships of all levels of notes in each mensuration are given in a systematic way. The first mensuration sign he deals with in this chapter is the sign of perfect tempus, minor prolation, while he began with that of perfect tempus, major prolation in the first chapter.

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42I have not encountered this categorization of mensuration signs in other theorists.
Signum minoris perfecti sub modo imperfecto, in quo maxima valet duas longas, et longa duas breves, et brevis perfecta tres semibreves, semibrevis vero duas minimas. . . . (VII, 14-16)

(⊙ is the sign of perfect [tempus], minor [prolation] under imperfect modus, in which a maxima is worth two longas, and a longa two breves, and a perfect three semibreves, a semibreve two minims.)

In chapter I Guilielmus mentions four basic signs with a vertical slash without giving any further explanation: in this chapter they receive fuller treatment. He begins with discussion of the circle with a vertical slash, which is presented immediately after the discussion of the circle alone. As Guilielmus describes in the text, the value of every note under the sign with a vertical slash is diminished by half in comparison to the same note under the sign without a vertical slash.  

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43 The semicircle with a slash is generally accepted as a sign for diminution by one-half. According to Berger, Guilielmus Monachus is one of the earliest theorists to discuss diminution by one-half. However, the full circle with a slash is one of most problematic signs, and one on which many theorists’s opinions are divided: it can be interpreted as a diminution by one-half, by one-third, by two-thirds, or diminished irrationally. Tinctoris, for example, does not give any specific value for ⊙, and because of its ambiguity he avoids combining this sign with other signs (Cf. Berger, Mensuration and Proportion Signs, p. 120-148).
Hoc signum est medium precedentis quod tenet parem numerum, sed de media parte diminuitur, quoniam maxima quae valebit 12 semibreves non valet nisi sex, et longa valebit sex semibreves non valet nisi tres, . . . .

(VII, 17)

This sign is a half of the preceding in so far as it holds the same number, but it is diminished by a half part, because a maxima, which will [normally] be worth twelve semibreves, is worth only six, and a longa, which will be worth six semibreves, is worth only three, . . . .

Concerning the reversed sign with a slash, Guilielmus describes the sign as a twice-diminished sign of , in which a maxima is sung as a breve, a longa as a semibreve, and so on. However, this quadruple diminution is not applied for perfect mensuration (perfect modus and tempus).

Istud signum est medium sui antecedentis, sed diminutum de media parte et tenens parem numerum.
In isto enim signo maxima accipitur pro brevi, longa pro semibrevi, brevis pro minima cum dimidia, et sic de aliis per medium diminuendo, etc. (VII, 43-4)

This sign is a half of its antecedent, but diminished by a half part and holding the same number. Under such a sign, indeed, a maxima is taken as a breve, a longa as a semibreve, a breve as a minim and
a half, and so on with others, diminishing by half, etc.)

In the subsequent discussion in chapter VII Guilielmus presents the remaining sixth types of signs, elucidating the meaning of each mensuration sign and the value of every note under each sign in the same way he had for the signs we have just discussed [½, ⅓, and ⅔] in previous passages. To summarize briefly, a circle and a semicircle alone indicate perfect tempus and imperfect tempus, respectively. The presence of a dot signifies major prolation, and the absence of a dot means minor prolation. When the sign appears with a figure, a configuration Guilielmus calls more-than-composite, the sign itself denotes the modus, and a figure indicates the tempus. Thus, in more-than-composite signs, a

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44The earliest mention of mensuration signs for tempus appears in the anonymous Compendium musicae mensurabilis tam veteris quam novae: Pro tempore perfecto denotando, ponitur circulus rotundus vel tres tractuli; pro imperfecto vero ponuntur semicirculi vel duo tractuli . . . . (Gilbert Reaney ed. CSM vol. 30, p. 40) (Cf. Berger, Mensuration and Proportion Signs, p. 12)

45According to Berger, the first description of signs signifying prolation, in which three dots indicate major prolation and two dots minor prolation, occurs in the "Ars Perfecta in Musica," ascribed to Philippe de Vitry (CS III, p. 38). (Mensuration and Proportion Signs, p. 27).

46Nicasius Weyts offers a different interpretation of these signs. For him the sign signifies tempus, the first
figure '2' or '3' indicates an imperfect breve or a perfect breve, respectively. If two figures are combined with the sign, a combination he calls composite-plus-more-than-composite, the sign itself signifies the value of maximodus, the first figure signifies modus, and the second figure tempus. A figure '3' always denotes perfect mensuration, '2' denotes imperfect mensuration, and a dot always signifies prolation.

The figures '2' and '3' had already been defined very briefly in the first chapter. There Guilielmus had stated that a figure '2' signifies "half," or "diminution by a third part," and a figure '3' denotes either a group of three minims or a group of three semibreves:

47 Guilielmus's description of mensuration signs with a figure or figures agrees with those of many other theorists, such as Hothby (Reaney ed., De cantu figurato, CSM vol. 31, p. 28), Anonymous V (Tractatus de musica figurata et de contrapuncto, CS IV, p. 439), Duran (Vogel, "The theoretical writings of Domingo Marcos Duran," p. 368), Agricola (Howlett, "A Translation of three treatises by Martin Agricola," p. 233-4), Aaron (Lucidarium, Bk. III, Ch. 10), and Gaffurius (Miller, Practica Musicæ, p. 88).

48 It would appear that Guilielmus's speaking of a figure '2' as "diminishing by a third (I, 34)" is a mistake. I know of no such use of the number '2' elsewhere.
2 vero medium sive diminutionem de tertia parte signat.
(I, 33)
(2 signifies "half", or diminution by a third part.)

3 vero aliquotiens denotat ternalitatem minimarum
et aliquotiens signat ternalitatem semibrevium, etc.
(I, 34)
(3 sometimes denotes a group of three minims and
sometimes signifies a group of three semibreves, etc.)

However, according to the description of these figures in the
seventh chapter, they signify imperfect and perfect
mensuration either in modus or in tempus.

© 2  Istud signum est [signum] modi perfecti, temporis
imperfecti et semibrevis perfectae, et bene dico modi
perfecti, quoniam longa valet tres breves; et bene
dico brevis imperfectae propter 2, quia 2 dat
imperfectionem; et semibrevis perfectae, quia in
quocumque loco est punctus, ibi semibrevis perfecta
valet tres minimas. (VII, 87)
(©2 This is the [sign of] perfectus modus, imperfect
tempus and perfect semibreve, and I say properly " of
perfect modus," because a longa is worth three breves;
and I speak properly of an imperfect breve because of
the 2, because 2 gives imperfection; and [I say] a
perfect semibreve, because in whatever place there is a
dot, therein a perfect semibreve is worth three minims.)
3 Signum istud est signum modi imperfecti, temporis perfecti et semibrevis perfectae, hoc est, prolationis, est signum modi imperfecti propter C, quia C dat binalitatem; est enim perfecti temporis propter 3, quare 3 dat ternalitatem semibrevis. . . . (VII, 70)

(3 This sign is the sign of imperfect modus, perfect tempus and perfect semibreve, that is, prolation. It is the sign of imperfect modus because of the C, because C gives a binary number; it is a sign of perfect tempus because of the 3, whereby 3 gives a ternary number of semibreves; . . . .)

Est enim alter modus qui est compositus cum circulo et duabus 3 3, vel cum circulo et duabus 2 2, et talis modus intelligitur quando maxima valet tres longas, longa tria tempora et tempus tres semibreves et semibrevis aliquotiens tres minimas et aliquotiens vero duas. (VII, 52)

(There is indeed a different modus which is composite, with a circle and two threes (3 3) or with a circle and two twos (2 2), and such a mode is understood when a maxima is worth three longas, a longa three tempora, and a tempus three semibreves, and a semibreve sometimes three minimas and sometimes, two.49

49 The text is incomplete regards to a circle with two twos (2 2): . . . and a semibreve sometimes three minimas, [and a circle and two twos (2 2) is understood when a maxima is worth two longas, a longa two tempora, and a tempus three semibreves, and a semibreve sometimes two minimas.]
The discrepancies between the descriptions of figures in the first chapter and in chapter VII raise several questions. The figures '2' and '3' as described in the first chapter refer to proportional significance,\textsuperscript{50} however, in chapter VII they are treated as mensural figures.\textsuperscript{51}

In the description of mensuration signs in chapter VII Guilielmus does not specify that a figure '2' denotes duple proportion, even though he mentions at the outset of the chapter that "thus, there are these five signs (O C '2' and '3') by which prolation, modus, tempus, and to an extent proportion is recognized (VII, 6)." He rather states that a figure '2' in \textit{modus cum tempore} signs signifies imperfect mensuration in either modus or tempus. However, in the description of C 2, ε 2, and ε 2 2, the figure '2' implies the duple diminution of notes.\textsuperscript{52} Under these mensuration signs, the actual note value is a half of the notated note

\textsuperscript{50}As was noted earlier, in the third chapter Guilielmus uses the figures '2' and '3' to indicate duple and sesquialtera proportion, respectively.

\textsuperscript{51}It should perhaps be pointed out that a mensuration sign is one that indicates the interrelationship between different levels of notes in music, while a proportional sign indicates the relationship between the same levels of notes in different mensurations.

\textsuperscript{52}Guilielmus's examples under these mensuration signs clearly reveal that they are signs of diminution (see Exx. 16, 20, & 26).
value. The semicircle followed by one two ('2') is diminished by a half and followed by two twos ('2 2') twice diminished. Guilielmus's statement about the figure '2' refers to this proportional significance.

C 2 Istud enim signum est signum modi imperfecti, temporis imperfecti et semibrevis imperfectae, in quo maxima valet duas longas, longa duas breves et brevis duas semibreves, et semibrevis duas minimas. Istud enim signum vulgariter vocatur signum per medium, quoniam 2 diminuit de media parte, et ibi maxima accipitur pro longa, longa pro brevi, etc. (VII, 82-3) (C 2 This is the sign of imperfect modus, imperfect tempus, and imperfect semibreve, in which a maxima is worth two longas, a longa two breves, a breve two semibreves, and a semibreve two minims. This sign, indeed, is usually called the sign of diminution by half, because 2 diminishes by a half part, and there a maxima is taken as a longa, a longa as a breve, etc.)

2 2 Istud signum est signum modi imperfecti, in quo maxima valet duas longas propter C, longa duas

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53 The use of these signs to indicate duple diminution may also be found in Anon XII ("Compendium cantus figurati," CS I, p. 469), Sebald Heyden (transl. Clement Miller, De arte canendi, CSM vol. 26, p. 68), Antonio da Lucca ("Ars cantus figurati," CS IV, p. 429) and Fra Mauro da Firenze (ed. Frank A. D'Accone, Utriusque Musices Epitome, CSM vol. 32, 1984, pp. 79-80).
breves propter [primum] 2 et brevis duas semibreves propter secundum 2, et semibrevis tres \(\frac{1}{2}\) propter punctum. Istud enim signum potest accipi pro duplici medio eo quod sunt duo 2 2. . . . (VII, 120-1)

\(\text{C} \ 2 \ 2\) This sign is the sign of imperfect modus, in which a maxima is worth two longas because of C, a longa two breves because of [the first] 2, a breve two semibreves because of the second 2, and a semibreves three \(\frac{1}{2}\) because of a dot. This sign indeed can be taken as a two-fold diminution by half, because there are two twos (2 2). . . .)

While the number '2' clearly indicates diminution in the passage just discussed, Guilielmus does not mention diminution under the signs O 2 (Perfect modus, imperfect tempus and minor prolation), O 2 (perfect modus, imperfect tempus and major prolation), O 2 2 (perfect major and minor modus, imperfect tempus, and minor prolation), O 2 2 (perfect major and minor modus, imperfect tempus, and major prolation), and C 2 2 (imperfect major and minor modus, imperfect tempus and minor prolation). Among these signs, however, O 2 2 also seems to be a sign for duple diminution, since Guilielmus uses note values in his examples under this sign that are twice as large as the note values under signs without a figure '2' (see Example 22).\(^{54}\)

\(^{54}\)See also Example 25.
Ex. 22 (Ed. Ex. 19): *

* A dot should be added after the first note of measure 4 in the upper part. The eight note from the end of the same voice is an altered semibreve.

After Guilielmus had defined the figure '2' as an indication of "diminution by a half" in the first chapter, he points out that a figure '3' denotes either a group of three minimis or a group of three semibreves. This

55See Chapter I, 34 of the text.
description does not refer to a mensural figure belonging to
the group of *modus cum tempore* signs, in which a figure '3'
indicates only modus or tempus, because prolation is always
indicated by the presence or absence of a dot. Thus, a
figure '3' in this description should be understood as a
proportion sign to indicate sesquialtera proportion, which
implies that the passage under this sign carries a ternary
number of minims or semibreves.

Guilielmus's discussion of C 3 is unfortunately marred
by a scribal error. Guilielmus describes C 3 as the sign of
imperfect modus, imperfect tempus, and perfect semibreve or
prolation. This description does not agree with his
statement that a figure '3' after sign denotes ternary
tempus. The first sentence needs emendation as below.\(^56\)

\begin{verbatim}
C 3 Signum istud est signum modi imperfecti
et temporis perfecti \(^57\) et semibrevis [im]perfectae \(^58\)
sive prolationis. Et super hoc nota quod 3
aliquotiens dat ternalitatem semibrevis, aliquotiens
\end{verbatim}

\(^56\)In other descriptions of *modus cum tempore* sign, a
semicircle, figure '3', and the absence of a dot
consistently signify imperfect modus, perfect tempus, and
imperfect prolation, respectively.

\(^57\) *Imperfecti* in the manuscript is corrected to
*perfecti*.

\(^58\) *Perfectae* in the manuscript is corrected to
*imperfectae*. 
vero ternalitatem minimarum. Sicut est posita in isto signo, semper dat ternalitatem minimarum.
(VII, 59)
(C 3 This sign is the sign of imperfect modus, perfect tempus, and [im]perfect semibreve or prolation. And beyond this, note that 3 sometimes gives a ternary number of semibreves, but sometimes a ternary number of minims.)

With the exception of some weaknesses in organization, as noted above, Guilielmus's discussion of notational theory deserves credit for providing especially clear and detailed information on the subject. Particularly with respect to his systematic and extensive presentation of mensuration signs, and in his comprehensible explanation of proportional theory, Guilielmus's treatise stands unparalleled among its contemporaries.
Chapter II. Theory of Counterpoint

The discipline of counterpoint has occupied a special place in the history of music theory and practice ever since the fourteenth century. During the Medieval and Renaissance periods almost all major theorists, including Guilielmus, devote at least a section of their treatises to a discussion of counterpoint. As we shall see below, Guilielmus's treatment of counterpoint is very much in the tradition of his predecessors. He presents a series of ten rules concerning counterpoint, concisely, and without a detailed explanation. In general, these rules agree with those of other authorities of the time, such as Tinctoris and Gaffurius.\(^1\) In addition to the rules of counterpoint, Guilielmus briefly discusses the theory of "sights" and provides a list of permissible intervals for this over each note of the gamut. His views on this topic are very much in the tradition of the English composers and theorists Lionel

\(^{1}\)Both Tinctoris and Gaffurius present only eight rules in their respective discussions of counterpoint. Another difference is that Guilielmus's discussion of his ten contrapuntal rules is not accompanied by any notated examples except that for the fifth rule. Tinctoris and Gaffurius, on the other hand, both provide illustrative musical examples in their discussions.
Syncopation is dealt with by Guilielmus in a separate section that appears after his discussion of mensuration signs.

Guilielmus's rules of counterpoint are presented in the sixth chapter of his treatise. Chapter six can be divided into three parts: the first part presents the theories of counterpoint and "sights"; the second and third parts deal respectively with the theory of fauxbourdon and gymel, and present rules for composing in three and four voices. A brief chapter eight concerns the rules for syncopation. As do most treatises on the discant or counterpoint, Guilielmus's discussion of counterpoint begins with a listing of perfect and imperfect consonances that are admitted for counterpoint.

The principles of consonance and dissonance are extremely important, because from the ninth century onwards they are directly connected to the rules for composing in polyphonic practice. Indeed, the theory of consonance and dissonance developed in conjunction with those rules. While their importance as compositional determinants increased, however, specific ideas of consonance and

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2 Rules for composing in three and four voices will be discussed in the commentary on chapter III, "Theories of Fauxbourdon and Gymel."
dissonance changed gradually throughout the Middle Ages and Renaissance. The line between consonance and dissonance was somewhat different depending on a particular time or an individual theorist (See Table 1).

Following the Boethian tradition, the unison, octave, fourth, and fifth were, in general, regarded as consonances in the early Middle Ages. Of these four consonances, the unison and octave were the only intervals that never caused problems of classification. They were always regarded as perfect consonances. (See Table 1)

3Table 1 is based upon the recapitulatory table of Serge Gut in "La notion de Consonance chez les Théoriciens du Moyen Age" (ACTA, 1976, p. 22). This table, in which theorists or treatises are arranged in chronological order, shows varying notions of consonance and dissonance in theoretical writings from the ninth to the sixteenth centuries.

4Boethius states that musical consonances are diatessaron, diapente, diapente, diapason, diapason-plus-diapente, bis-diapente, which consist of a duple, triple, quadruple, sesquialtera, or sesquitertian ratio, respectively. (Bower, Boethius: Fundamentals of Music, pp. 15-6) Discantus positio vulgaris in the early thirteenth century, however, does not mention the fourth as a consonance, even though it was regarded as a consonance throughout the thirteenth century. (Cf. Janet Knapp, "Two thirteenth century Treatises on Modal Rhythm and the Discant", JMT, 1962, p. 203)

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Table 1
The distinction of perfect, intermediate, and imperfect consonance and the equivalent degrees of dissonance was made first in the treatise of Johannes de Garlandia. He classified the unison and octave as "perfect" consonances, the fifth and fourth as "intermediate" consonances, and major and minor thirds as "imperfect" consonances. According to him, the major sixth and minor seventh are imperfect dissonances, the major second and minor sixth are intermediate, and the minor second, the tritone, and the major seventh are classified as perfect dissonances.\(^6\) Franco of Cologne, however, proposed a three-fold classification of consonances and a two-fold classification of dissonances. He classified major and minor thirds as imperfect consonances, the minor second, tritone, major seventh, and minor sixth as perfect dissonances, and the major second, major sixth, and minor seventh as imperfect dissonances.\(^7\)

The status of the fourth fluctuated considerably during the course of the centuries. Until the end of the eleventh century, the fourth was, in general, a more preferable

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\(^6\)De Mensurabili Musica, ed. Reimer, pp. 67-72.

\(^7\)Ars Cantus Mensurabilis, CSM vol. 18, pp. 65-59.
consonance than the fifth. From the twelfth century on, however, the fifth and fourth were treated equally, and the

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A more ambiguous position is occupied by the fourth in the earliest discussion of consonances in polyphonic practice, that found in the Musica and Scolica Enchiriadis, dating from the late ninth century. Here polyphony is discussed under the heading "De Symphoniis," where it is referred to as "organum." (On the term organum in the early theory of polyphony see Fritz Reckow "Organum-Begriff und frühe Mehrstimmigkeit: zugleich ein Beitrag zur Bedeutung des 'Instrumentalen' in der spätantiken und mittelalterlichen Musiktheorie," in Forum Musicologicum: Basler Studien zur Musikgeschichte, [Bern: Francke Verlag, 1975], Band 1, pp. 31-167.) According to these treatises, simple organum consists of a chant melody (vox principalis) and an organal melody (vox organalis), which is the duplication of the chant melody in parallel motion at three levels of consonance - the fourth, fifth, and the octave. In composite parallel organum, either or both of the parts would be duplicated at the octave. The author uses a system of disjunct tetrachords (using Daseian notation) in the discussion of this polyphonic practice. It is possible to sing in parallel fifths in this system without disturbance. When singing in fourths, however, a tritone occurs on every fourth degree of the scale between the tritos of the lower tetrachord and the deuterons of the higher tetrachord: [i.e. in modern nomenclature between B flat and e, F and b, c' and f#, and between g' and c'#]. In order to avoid each tritone the vox organalis must constantly avoid the tritos of the lower tetrachord; the practical result of this is oblique motion at the beginning and end of a phrase. (Musica et Scolica Enchiriadis una cum aliquibus tractatulis adiunctis, ed. Hans Schmid, vol. 3 of Veröffentlichungen der Musikhistorischen Kommission [München: Verlag der Bayerischen
fifth even replaced the fourth in its relative position among consonances. Even though the fourth was regarded as a consonance theoretically because of its simple ratio (4:3), it began to be considered as a dissonance in practical use from the beginning of the fourteenth century.

The classification of thirds did not become an issue in the thirteenth century. Major and minor thirds were traditionally regarded as imperfect consonances. In the

Akademie der Wissenschaften, 1981]; also in GS I, pp. 152-212

9The Milan organum treatise (Milano, Biblioteca Ambrosiana, M 17, fol. 56v-61r) and the Montpellier organum treatise place the fifth in equality with the fourth and octave as perfect consonances. The two treatises are edited, with German translation, by Hans H. Eggebrecht and Frieder Zaminer, in Ad organum faciendum. Lehenschriften der Mehrstimmigkeit in nachquidonischer Zeit, Neue Studien zur Musikwissenschaft vol. 3, [Mainz: B. Schott's Söhne:, 1970]; a translation of Ad Organum Faciendum into English is available in Jay A. Huff, Ad Organum Faciendum & Item de Organo [New York: The Institute of Medieval Music]) (Cf. Gut, "La Notion de Consonance chez les Théoriciens du Moyen Age," p. 26).

10Johannes de Garlandia, Franco, and Anonymous IV regarded the fifth as the second consonance.


12The Milan organum treatise (Milano, Biblioteca Ambrosiana, M 17) from the end of the eleventh century is the first treatise which classifies thirds as imperfect consonances.
middle of the thirteenth century, Franco included thirds as basic consonances, albeit imperfect ones. A third, with a sixth, was allowed for the first time as a possible beginning note in the organum treatise of Montpellier at the beginning of twelfth century.

Sixths posed a particularly thorny problem of classification. Until the fourteenth century they were classified as imperfect consonances, imperfect dissonances or perfect dissonances. The treatise of Theinred of Dover, from the twelfth century, seems to be the first to consider the sixth as an imperfect consonance. During the thirteenth century the sixth was generally considered to be a dissonance. The distinction between the minor and major sixth was not given in the treatise of Anonymous IV, who

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13 Imperfectae dicuntur quando duae voces multum differre perciipientur ab auditu, non tamen discordant. Et sunt duae, scilicet ditonus et semiditonus, . . . . (Ars Cantus Mensurabilis, CSM 18, p. 66)

14 Eggebrecth, Ad Organum Faciendum, p. 187.

15 See Table 1.

considered the two to be dissonances. Theinred of Dover, Johannes de Garlandia and Franco of Cologne, however, already made a distinction between them. Theinred of Dover mentioned that the minor sixth was more frequently used than the major sixth, because the minor sixth is more consonant than the major sixth according to its ratio. Johannes considered the minor sixth as an intermediate and the major sixth as an imperfect dissonance. Franco and the Compendium Discantus also classified the major sixth as an imperfect dissonance, but classified the minor sixth as a perfect dissonance. Its relative consonance or dissonance, however,

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17 Reckow, Der Musiktraktat des Anonymus 4, p. 80.
19 De Mensurabili Musica, Reimer, ed. p. 68.
20 Ars Cantus Mensurabilis, CSM vol. 18, p. 66
22 CS I, p. 154
23 In general, a minor interval was considered to be more dissonant than a major interval.
depended partly on its position. Both Johannes and Franco stated that any dissonance before a perfect or intermediate consonance becomes an intermediate consonance. Marchettus of Padua included thirds and sixths among the principal dissonances.

Tinctoris, in his Diffinitorium (c.1475), made a distinction between concordantiae perfectae and concordantiae imperfectae. According to him, concordantiae perfectae cannot be used in parallel motion, while concordantiae imperfectae can. He classified the unison, octave, fourth, and fifth as perfect consonances, and major and minor thirds and sixths as imperfect consonances. He also listed the

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24 Item sciendum est quod omnis imperfecta discordantia immediate ante concordantiam bene concordat. (Ars Cantus Mensurabilis, CSM 18, p. 68).

25 This notion implies that the classification of an interval is contextual.


27 Insuper concordantiarum aliae perfectae sunt et aliae imperfectae (Tinctoris, "Liber de Arte Contrapuncti," CS IV, p. 78).

28 Even though the fourth was a consonance theoretically, it was allowed only with a third or fifth below it.

29 Liber de Arte Contrapuncti, CS IV, p. 78
following dissonances: minor and major second, the tritone, the minor and major ninth.

Without giving any definition of consonance and dissonance, Guilielmus gives a list of twelve consonances which can be used in counterpoint. As we shall discover, Guilielmus's conception of consonances and dissonances is totally congruent with other theorists of his time. In his enumeration of consonances, Guilielmus goes as far as the triple octave, in which he makes the distinction between perfect and imperfect consonances, and between simple and composite consonances. According to him, there are four consonances: two imperfects (third and sixth) and two perfects (fifth and octave). These four consonances are called simple, because many consonances can be composed from them, such as tenth, twelfth, thirteenth, fifteenth, seventeenth, nineteenth, and twentieth. Guilielmus notes that the unison is not only a consonance but the origin and first beginning of all consonances, according to Boethius.

After a listing of consonances, Guilielmus gives the desirable progression of these consonances:

\[ \ldots \textit{quando unisonus requirit tertiam; ipsa tertia requirit quintam; ipsa quinta requirit sextam in eadem sede; ipsa sexta requirit octavam in diversis sedibus; ipsa octava requirit decimam; ipsa decima requirit} \]
duodecimam; ipsa duodecima requirit tertiamdecimam in eadem sede; ipsa tertiadecimam requirit decimamquintam in diversis sedibus; . . . . (VI, 6-7)

(. . . When there is a unison, it seeks the third; the third seeks the fifth; the fifth seeks the sixth on the same pitch; the sixth seeks the octave on a different pitch; the octave seeks the tenth; the tenth seeks the twelfth; the twelfth seeks the thirteenth on the same pitch; the thirteenth seeks the fifteenth on different pitches; . . . . )

[my underlining]^{30}

This passage indicates that every consonance should move to the closest consonance. The same rule had been given by many other theorists, such as Johannes de Garlandia and Philippe de Vitry, and would continue to be in the centuries to come.^{31}

^{30}Guido Adler translates the phrases "in eadem sede" and "in diversis sedibus" as "in the same octave" and "in different octaves" ("Studie zur Geschichte der Harmonie," p. 793). If we understand these phrases as Adler translates them, the present description of "the thirteenth and fifteenth in different octaves" contradicts the description in Guilielmus's ninth rule on counterpoint, where it appears as "the thirteenth and the fifteenth in the same octave."

^{31}Seguitur de ordinatione specierum cantu descendente. Prenolandum est quod generaliter post unisonum sequitur tertia et aliquando quinta et aliquando sexta et etiam octava. Post tertiam sequitur generaliter quinta et aliquando octava.... (Johannes de Garlandia, "Optima Introductio in Contrapunctum pro Rudibus," CS III, p. 13)
In the following passages, Guilielmus gives ten general rules of counterpoint, following a tradition that was already over a century old by his time. These ten rules refer to simple counterpoint.\textsuperscript{32} The term "counterpoint", which is derived from the Latin term \textit{punctus contra punctum} (note against note), began to appear in treatises on music in the first half of the fourteenth century.\textsuperscript{33} As we shall discover below, except for his eighth rule concerning the treatment of dissonance, Guilielmus's rules agree with those of his predecessors.

Unfortunately, there are no notated examples accompanying the text, except that for the fifth rule.

\begin{quote}
\begin{center}
Prenotando quod unisonus requirit tertiam, quinta quintam, sexta octavam; et ista regula non fallit, quod semper post sextam debeat sequi octava, quia . . . ("Ars Contrapunctus secundum Philippum de Vitriaco," CS III, p. 27).
\end{center}
\end{quote}

\textsuperscript{32}Guilielmus gives a separate discussion of the rules for composing in three or four voices at the end of the same chapter.

\textsuperscript{33}The term appeared first in an Occitan poem around 1250: . . . triplar sanctus et agnus e contraponchamens, entonar seculorum, non es mens us amens, e far dous chans et orgues e contrapointamens,. . . .(Klaus-Jürgen Sachs, "Contrapunctus/Kontrapunkt" in HMT, 1982/83).

As a designation for the combination of simultaneously sounding musical lines, however, the term first appeared in the "Optima Introductio in Contrapunctum pro Rudibus" ascribed to Johannes de Garlandia: \textit{Volentibus introduci in arte contrapunctus, id est notam contra notam, considerare debemus, quod aliquae sint prenotanda.} (CS III, p. 12). Cf. Hugo Riemann, \textit{History of Music Theory}, p. 209).
Guilielmus's first rule concerns the proper interval of beginning and ending a phrase.\textsuperscript{34} Like most other theorists,\textsuperscript{35} Guilielmus states that one ought to begin and end with perfect consonance, and that the penultimate note should be an imperfect consonance:

\begin{quote}
Prima regula talis est, quod nos debemus incipere et finire contrapunctum per speciem perfectam, sed quod penultima sit species imperfecta apta speciei perfectae. (VI, 9)
\end{quote}

(The first rule is that we should begin and end counterpoint by means of a perfect interval, but that the penultimate should be an imperfect interval which is appropriate to the perfect interval.)\textsuperscript{36}

\textsuperscript{34}These rules refer to composition as a whole, but they apply at the phrase level in the examples.

\textsuperscript{35}Tinctoris specifies more on this rule. According to him, the beginning and ending must have a perfect consonance. An imperfect consonance, however, is allowed when the music begins with an upbeat. Thirds are allowed in a final chord in composition in more than two parts. (See the first rule of Tinctoris in "Liber de Arte Contrapuncti," CS IV, p. 147.)

The second rule implies that the succession of perfect consonances is strictly restricted. The succession of perfect consonances of the same kind in parallel motion is prohibited; however, a succession of up to three perfect consonances is permissible above a stationary tenor:

Secunda regula talis est, quod nos non possumus facere duas species perfectas similes de linea in spatium tendentes, nec e contrarario, de spatio in rigam, sed nos bene possumus facere, si sint quatuor vel tres notulæ et quod illæ tres sint tres quintæ, vel tres unisoni, vel tres octavae, vel quomodocumque, etc. (VI, 10)

(The second rule is that we cannot make two parallel perfect intervals moving from line to space, or on the contrary, from space to line; but we are well able to do this if there be four or three [stationary] notes and those three be three fifths, or three unisons, or three octaves, or whatever, etc.)

Anonymous XII mentioned that parallel perfect consonances are allowed between the discant and contratenor when the contratenor lies above the tenor. He also allowed them when the tenor moves by a fifth or more ("Tractatus de musica plana et mensurabili," CS III, p. 465).
The third rule allows two or three parallel dissimilar perfect intervals, such as fifth and octave, octave and twelfth, twelfth and fifteenth, etc. Hidden fifths or octaves between the two parts are left out of Guilielmus's consideration:

Tertia regula dicti contrapuncti talis est, quod nos bene possimus facere duas vel tres species perfectas dissimiles, sicut quintam et octavam, octavam et duodecimam, duodecimam et decimamquintam, et e converse. Sed non possimus facere unisonum et octavam nec e converso, quia secuncum Boetium unisonus reputatur esse diapason, scilicet, octava. (VI, 11-12)

(The third rule of the above-mentioned counterpoint is that we can properly make two or three dissimilar perfect intervals, such as fifth and octave, octave and twelfth, twelfth and fifteenth, and the reverse of these. But we cannot make a unison and an octave or the reverse of these, because, according to Boethius, the unison is considered to be the diapason; namely the octave.)

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The fourth rule allows parallel motion of imperfect consonances. They should be followed, however, by a perfect interval:

Quarta regula talis est, quod nos de speciebus imperfectis possimus uti ad libitum tam in ascensu quam in descensu de gradu ad gradum, sed quod talis species imperfecta habeat speciem perfectam, qualem requirit sicut, si sit tertia, sequatur quinta, si sit sexta, sequatur octava, et sic de singulis. (VI, 13)

(The fourth rule is that we are able to make free use of the imperfect intervals both in ascending and in descending from step to step, but such imperfect intervals should have perfect intervals, as required; if there be a third, the fifth should follow, if there be a sixth, the octave and so on.)

39Anonymous XIII is the one who first mentioned the employment of parallel thirds ("Tractatus de Discantu," CS III, p. 497). Anonymous IV noted that the succession of thirds is frequently used in England (Reckow, ed. Der Musiktraktat des Anonymus 4, pp. 77-78).

Both Johannes de Muris and Anonymous XI go into details on this rule. They allow the succession of imperfect consonances only above stepwise motion in the tenor: Item nullibi possunt poni due vel tres vel quatuor tertie, nec etiam due vel tres vel quatuor sexte, nisi solummodo super notulas descendentes vel ascendentes solam notulam vicissim ("Ars Discantus," CS III, p. 74); Plures tertie et plures sexte possunt sequi una post alteram, ita tamen quod non fiat ultra quatuor vel quinque et post illas immediate sequatur perfecta species, et hoc fit quum tenor ascendit vel descendit per simplices gradus ("Tractatus de Musica Plana et Mensurabili," CS III, p. 463).

Philippe de Vitry ("Ars Perfecta in Musica," CS III, p. 28) also mentions the succession of imperfect intervals in parallel motion. In his description, however, consonance means perfect consonance and dissonance is synonymous with
The fifth rule is that parallel motion between two parts is allowed when the tenor moves by the interval of fifth and fourth (see Example 1). The restriction placed on parallel motion between voices suggests that contrary motion is more preferable in counterpoint:

Quinta regula talis est, quod nos non possumus ascendere ncc descendere per species perfectas nisi duobus modis, scilicet, per diapente et diatesseron, scilicet, per quintam et per quartam. Per quintam, sic si cantus firmus descendat quintam, contrapunctus potest descendere cum cantu firmo de perfecta consonantia in perfectam consonantiam, sicut de quinta in octavam; per quartam, sic si cantus firmus descendat quartam vel quintam, tunc contrapunctus potest descendere de imperfecto in suum perfectum, sicut de tertia in quintam, . . . . (VI, 14-15)

(The fifth rule is that we can neither ascend nor descend in perfect intervals except in two ways, namely, through diapente and diatessaron, that is, by fifth and by fourth. By fifth: if the cantus firmus descends a fifth, the counterpoint can descend with the cantus firmus from a perfect consonance into a perfect consonance, such as from the fifth to the octave. By fourth: if the cantus firmus descends a fourth, then the counterpoint can descend from an imperfect into its

imperfect consonance: Consonantia et consonantia perfecta idem sunt. Et dissonantia et consonantia imperfecta pro eodem habentur.
perfect, as from the third into the fifth, . . . .  

Ex. 1 (Ed. Ex. 53):

The sixth rule objects to mi against fa in perfect intervals because of the semitone. It is, however, permissible in imperfect intervals:

40The "Optima Introductio in Contrapunctum pro Rudibus" ascribed to Johannes de Garlandia (CS III, p. 13) allows parallel motion between cantus and discantus when the cantus moves by the interval of fifth (in the distance of octave-fifth or fifth-octave), seventh (in the distance of twelfth-octave or octave-twelfth), and octave (in the distance of fifth-unison or unison-fifth). In the "Ars Contrapunctus secundum Philippum de Vitriaco" (CS III, p. 23), parallel motion is permissible when the cantus moves by the interval of fifth, sixth, seventh, or eighth. Anon XI, on this rule, says that the counterpoint should, if possible, move in contrary motion when the tenor skips: Quum tenor ascendat per plures gradus quam per duos, tunc contrapunctus debet descendere, si saltem potest, et e converso. ("Tractatus de Musica Plana et Mensurabili," CS III, p. 463).
Sexta regula talis est, quod nos non possumus facere fa contra mi, nec mi contra fa, in speciebus perfectis propter semitonum. In speciebus autem imperfectis possumus facere, guia dat dulcedinem. (VI, 16-17) (The sixth rule is that we can neither make fa against mi, nor mi against fa in perfect intervals because of the semitone. We can do this, however, in imperfect intervals, because it gives sweetness.)

The seventh rule states that every part should move in stepwise motion if possible, because every disjunct note is "inconsonant":

Septima regula talis est, quod in omni contrapuncto debemus semper tenere propinquiiores notas sive proximiores, quoniam omne disiunctum inconsonans. (VI, 18) (The seventh rule is that in every counterpoint we always ought to take the closer or more proximate notes, since every disjunct [note] is inconsonant.)


42 The fifth rule of Anonymous XI (p. 463) and the fourth rule of Tinctoris also agree with this rule: . . . quam proximus et quam ordinatissimus poterit contrapunctus fieri debet etiam licet conjunctionibus longorum
The eighth rule refers to the treatment of dissonance. Guilielmus allows the use of dissonance in note against note counterpoint, because it gives sweetness. This represents a sharp contrast to Tinctoris, who prohibits the use of dissonance in simple counterpoint. According to Guilielmus, dissonance can also be used in syncopations, as is discussed in his section on the understanding of syncopation. Guilielmus, however, does not go into as much detail on the treatment of dissonance as Tinctoris had in the second book of his treatise.

Octava regula talis est, quod quamquam posuerimus duodecim consonantias tam perfectas quam imperfectas, tam simplices quam compositas, non obstante, secundum usum modernum consonantiae dissonantes aliquotiens nobis serviunt, sicut dissonantia secundae dat dulcedinem tertiae bassae, dissonantiae vero septimae dat dulcedinem sextae, dissonantiae quartae dat dulcedinem tertiae altae, et illa tertiae dat intervallorum tenor sic converso formatus, . . . . ("Liber de Arte Contrapuncti," CS IV, p. 149).

43 "Liber de Arte Contrapuncti," CS IV, pp. 134-5

44 See chapter VII of the text.

45 "Liber de Arte Contrapuncti," Bk. II

It may be questioned whether Guilielmus or Tinctoris is the first who proposes this treatment of dissonances.
The eighth rule is that although we have set forth twelve consonances, both perfect and imperfect, simple and composite, according to modern usage nothing prevents dissonance from sometimes serving the needs of consonance, as for example, the dissonance of a second gives sweetness to the third below, or the dissonance of a seventh gives sweetness to the sixth, the dissonance of a fourth gives sweetness to the third higher, and that the third gives sweetness to the fifth, and this according to modern usage.)

The ninth rule is that the fifth should proceed to the sixth, and the thirteenth proceed to the fifteenth above a stationary tenor. It is, however, sometimes pleasant that the sixth proceed to the fifth, and the fifteenth proceed to the thirteenth, both above a stationary tenor and above a changing tenor for the sake of sweetness. This rule refers to the progression to the nearest consonance, which Guilielmus had already mentioned at the beginning of this chapter:

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46 Both Prosdocimus de Beldemandis ("Tractatus de Contrapuncto," p. 197) and Anonymous XI (CS III, p. 463) do not allow the use of dissonance in the simple counterpoint.

47 See Chapter VI, 6-7.
Nona regula talis est, quod quamquam dixerimus quod quinta debeat praecedere sextam in eadem sede, et quod decimamquintam debeat praecedere decimam in eadem sede, tamen aliquotiens est dulce sextam praecedere quintam, et decimamquintam praecedere duodecimam, tam in eadem sede quam in diversis sedibus propter dulcedinem. (VI, 20)
(The ninth rule is that although we have said that the fifth ought to precede the sixth on the same pitch, and that the thirteenth ought to precede the fifteenth on the same pitch, nevertheless it is sometimes pleasant for the sixth to precede the fifth, and the fifteenth to precede the thirteenth, both on the same pitch and on different pitches, for the sake of sweetness.)

The tenth rule states that repetition of notes should be avoided:

Item maxime vitanda est reiteratio, hoc est, rem unam bis vel ter reiterare, sicut fa, mi, fa, mi, sol, fa, sol, fa, ita quod cantus firmus sic faciat, et sic de regulis dicta sufficiant. (VI, 21)
(Furthermore, repetition should be especially avoided, that is, to repeat one thing two or three times, such as fa mi, fa mi, sol fa, sol fa, unless the cantus

Many other theorists, such as Johannes de Garlandia, Philippe de Vitry, and Anonymous XI (CS III, p. 463) describe the same rule; however, they do not specify, as Guilielmus does, the progression of intervals "over a stationary tenor" or over "a changing tenor". 
firmus should occasion this. Thus, the things said concerning these rules should be sufficient.)

The ten rules that Guilielmus presents in this chapter are in the tradition of his predecessors. These rules, such as beginning and ending with a perfect consonance, the prohibition of a succession of perfect consonances of the same size, the allowance of succession of imperfect consonances or perfect consonances of different kinds, the general preference for progression to the closest consonance, the general recommendation of stepwise motion, the prohibition of mi against fa in perfect intervals, and the rule against the repetition of notes, etc. contain nothing new as compared to the general rules given by earlier theorists. It should be noted, however, that Guilielmus allows the use of dissonance for "sweetness" in note-against-note counterpoint. His speaking of dissonance in simple counterpoint is in sharp contradiction to the dissonance treatment of Prosdocimus de Beldemandis, Anonymous XI, and

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49Tinctoris's sixth rule agrees with Guilielmus's tenth rule. Tinctoris, however, allows the repetition of notes in the counterpoint when they are used characteristically to imitate the sound of bells or horns ("Liber de Arte Contrapuncti," pp. 150-1).
Tinctoris, who do not allow dissonance in simple counterpoint.

In connection with the rules for counterpoint, Guilielmus briefly discusses the rule for syncopation in the eighth chapter of his treatise:

Nota quod si cantus firmus se invicem sequatur ascending de riga in spatium, vel e converso, et ascendat x, xii notas gradatim, tunc debemus facere per tertiam bassam et quartam, quod idem est dicere per sextam et quintam altas, et hoc est verum ascendendo. Descendendo vero debemus syncopare per tertiam bassam et secundam, quod est dicere per sextam et septimam altas, ita quod penultima minima sit sexta veniendo postea ad unisonum, quod idem est [quam] octava, . . . .

(VIII, 2-3)

(Note that if the cantus firmus should follow itself in turn, ascending from line to space or conversely, and [if it] ascends ten, or twelve notes by step, then we ought to make the second voice by third and fourth lower, which is the same as saying by sixth and fifth higher, and this is true in ascending. In descending, however, we ought to syncopate by third and second lower, that is to say, by sixth and seventh higher, so that the penultimate minim may be a sixth thereafter coming to the unison, which is the same [as] the octave, . . . .)
Guilielmus does not give any definition of syncopation in the text. According to Apel, Philippe de Vitry and Johannes de Muris are the earliest theorists to mention the syncopation in their treatises, defining it as "a division of any figure into separate parts, which are related to each other by numbering perfections": Sincopa est divisio cujuscumque figure ad partes separatas que ad invicem reducuntur perfectiones numerando. While syncopation occurs only in the perfect mensuration in their description, Guilielmus' notated example shows syncopation in imperfect mensuration. The accompanying example demonstrates the syncopated progression of alternating fifths and sixths ascending and that of alternating sevenths and sixths descending (see Example 2).

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50 "Ars perfecta in musica Magistri Phillipoti de Vitriaco," CS III, p. 34.

51 "Libellus cantus mensurabilis secundum Johannem de Muris," CS III, p. 56.

Ex. 2 (Ed. Ex. 66):

![Music notation]

A passage on the theory of "sights," itself followed by a chart of the "sights" themselves, appears at the end of the chapter VI. In the passage on sight theory Guilielmus describes the practice of visualizing transposition at an octave.\(^{53}\)

Nota quod ad habendam perfectam perfectionem consonantiarum ocularem, nota quod unisonus accipitur pro octava, tertia bassa accipitur pro sexta alta, tertia alta accipitur pro decima, et ipsa quarta bassa accipitur pro quinta alta, et ipsa quinta alta aliquotiens accipitur pro duodecima, et ipsa sexta aliquotiens accipitur pro tertia bassa, et ipsa octava bassa accipitur pro unisono. (VI, 22) (Note that for having perfect sight perfection of consonances, note that the unison is taken as the octave, the lower third is taken as the sixth higher, \(^{53}\)In the practice of sights, a singer visualizes or imagines the notes ("in sight") below or above the given melody in the same range, then he transposes these imagined notes in a certain interval ("in voice").
the third higher is taken as a tenth, and the fourth lower is taken as a fifth higher, an actual fifth higher sometimes is taken as a twelfth, an actual sixth is taken as a lower third, and an actual octave lower is taken as a unison.)

According to him, the visualized notes below or above the given melody on the same staff are transposed by a singer to an octave higher: thus, in actual sound, the unison is sung as the octave, and the lower third as the sixth higher, etc.

The practice of sights has been discussed in detail by fifteenth-century English theorists, such as Lionel Power and Pseudo-Chilston. Power discusses both treble and quatreble sights, in which the visualized notes are transposed by a singer to an octave higher. According to him, the quatreble sight has four acceptable consonances above the given melody: the tenth, twelfth, thirteenth, and fifteenth. The treble sight, on the other hand, makes use of seven consonances: unison, third, fifth, sixth, eighth, tenth, twelfth, and thirteenth. Power enumerates acceptable

\[ \text{\cite{Power, Speculum: A Journal of Mediaeval Studies, vol. 10 (1935), pp. 242-258.}} \]

consonances for each note of great scale in both treble and quatreble sight (see Table 2).

**Table 2**

The Quatreble Sight:

<table>
<thead>
<tr>
<th>Note</th>
<th>G</th>
<th>F</th>
<th>E</th>
<th>D</th>
<th>C</th>
<th>B</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Note</td>
<td>re</td>
<td>fa</td>
<td>ut</td>
<td>la</td>
<td>mi</td>
<td>sol</td>
<td>b♭</td>
</tr>
<tr>
<td>G</td>
<td>re 12</td>
<td>fa 10</td>
<td>fa 13</td>
<td>la 12</td>
<td>mi 10</td>
<td>sol 13</td>
<td>b♭ 15</td>
</tr>
<tr>
<td>A</td>
<td>mi 12</td>
<td>sol 12</td>
<td>la 13</td>
<td>fa 13</td>
<td>mi 12</td>
<td>sol 12</td>
<td>la 13</td>
</tr>
<tr>
<td>B</td>
<td>sol 13</td>
<td>la 13</td>
<td>fa 15</td>
<td>mi 12</td>
<td>fa 13</td>
<td>la 15</td>
<td>ut 15</td>
</tr>
<tr>
<td>C</td>
<td>la 13</td>
<td>fa 13</td>
<td>la 15</td>
<td>mi 10</td>
<td>fa 13</td>
<td>la 13</td>
<td>ut 15</td>
</tr>
<tr>
<td>D</td>
<td>fa 13</td>
<td>la 15</td>
<td>mi 12</td>
<td>fa 13</td>
<td>fa 13</td>
<td>la 13</td>
<td>ut 15</td>
</tr>
<tr>
<td>E</td>
<td>la 15</td>
<td>mi 12</td>
<td>fa 13</td>
<td>fa 13</td>
<td>la 13</td>
<td>fa 13</td>
<td>la 13</td>
</tr>
<tr>
<td>F</td>
<td>mi 12</td>
<td>fa 13</td>
<td>la 15</td>
<td>mi 12</td>
<td>fa 13</td>
<td>la 15</td>
<td>ut 15</td>
</tr>
<tr>
<td>G</td>
<td>sol 13</td>
<td>la 13</td>
<td>fa 15</td>
<td>mi 12</td>
<td>fa 13</td>
<td>la 13</td>
<td>ut 15</td>
</tr>
</tbody>
</table>

The treble Sight:

<table>
<thead>
<tr>
<th>Note</th>
<th>G</th>
<th>F</th>
<th>E</th>
<th>D</th>
<th>C</th>
<th>B</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Note</td>
<td>ut</td>
<td>fa</td>
<td>ut</td>
<td>la</td>
<td>mi</td>
<td>sol</td>
<td>B♭</td>
</tr>
<tr>
<td>G</td>
<td>ut 8</td>
<td>fa 10</td>
<td>ut 10</td>
<td>la 12</td>
<td>mi 8</td>
<td>sol 10</td>
<td>B♭ 12</td>
</tr>
<tr>
<td>A</td>
<td>fa 10</td>
<td>sol 6</td>
<td>fa 10</td>
<td>la 12</td>
<td>mi 6</td>
<td>sol 8</td>
<td>B 8</td>
</tr>
<tr>
<td>B</td>
<td>mi 8</td>
<td>la 8</td>
<td>sol 10</td>
<td>B 8</td>
<td>mi 5</td>
<td>la 8</td>
<td>re 10</td>
</tr>
<tr>
<td>C</td>
<td>sol 10</td>
<td>B 8</td>
<td>re 10</td>
<td>fa 12</td>
<td>sol 5</td>
<td>B 8</td>
<td>re 10</td>
</tr>
<tr>
<td>D</td>
<td>B 8</td>
<td>re 10</td>
<td>fa 12</td>
<td>sol 5</td>
<td>la 5</td>
<td>B 6</td>
<td>re 10</td>
</tr>
<tr>
<td>E</td>
<td>re 10</td>
<td>fa 12</td>
<td>b♭ 8</td>
<td>sol 5</td>
<td>fa 3</td>
<td>b♭ 8</td>
<td>re 10</td>
</tr>
<tr>
<td>F</td>
<td>fa 12</td>
<td>b♭ 8</td>
<td>re 10</td>
<td>sol 6</td>
<td>fa 5</td>
<td>b♭ 8</td>
<td>re 10</td>
</tr>
<tr>
<td>G</td>
<td>b♭ 8</td>
<td>re 10</td>
<td>fa 12</td>
<td>sol 6</td>
<td>fa 5</td>
<td>b♭ 8</td>
<td>re 10</td>
</tr>
<tr>
<td>A</td>
<td>re 12</td>
<td>fa 13</td>
<td>la 13</td>
<td>mi 12</td>
<td>fa 13</td>
<td>la 13</td>
<td>ut 15</td>
</tr>
<tr>
<td>B♭</td>
<td>fa 13</td>
<td>la 13</td>
<td>mi 12</td>
<td>fa 13</td>
<td>fa 13</td>
<td>la 13</td>
<td>ut 15</td>
</tr>
</tbody>
</table>
By contrast, the treatise of Pseudo-Chilston provides instruction in sights for the mene, treble, quatreble, countertenor and counter parts. Three different degrees of transposition are assigned for each part. Transposition at the fifth is involved for the mene part, which may use five consonances—namely, the unison, third, fifth, sixth and octave. In the treble part, the visualized notes are transposed at the octave, and permissible consonances are the fifth, sixth, octave, tenth, and twelfth. The quatreble part uses five intervals, such as the octave, tenth, twelfth, thirteenth, and fifteenth, in which the imagined notes are transposed a twelfth up from the visualized part.

After Pseudo-Chilston discusses the sights of discant (mene, treble, and quatreble), he turns to the parts below the tenor, namely the countertenor and counter parts. The sight of the countertenor has nine consonances without transposition: four intervals below the tenor, such as octave, sixth, fifth, and third; five intervals above the tenor, such as the unison, third, fifth, sixth, and octave. According to him, the contratenor part is an expansion of the mene part. The counter part is the mene part turned upside

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56 He mentions that "a man who has a low voice may sing a countertenor part instead of a mene, for when the tenor part is high the countertenor may be below it, and when the tenor part is low, then the countertenor is above it and becomes the mean part" ("Three Musical Treatises," p. 261).
Five consonances, namely, the octave, sixth, fifth, third below, and unison are used in this part. This counter part, like the mene part, involves transposition at the fifth, and a singer of the counter part should visualize these consonances a fifth higher. But if the tenor voice is high, four more intervals are used for the counter part, which are the tenth, twelfth, thirteenth, and fifteenth below, and the singer should transpose these intervals up a twelfth. Compared to these two theorists, Guilielmus's description is very brief and only mentions an octave transposition without specifying the voice type.

The following chart of the "sights" shows the choice of consonances for a singer who should extemporize his or her parts above or below the tenor (see Table 3). Here, Guiliemus provides a complete list of permissible consonances and the number of the interval to be sung for each note of the gamut; however, he does not give any explanation concerning this chart. The practical application of the sights will be discussed in the next chapter of this commentary.

\[57Ibid.\]
### Table 3

<table>
<thead>
<tr>
<th>G re 12</th>
<th>mi 13</th>
<th>sol 15</th>
</tr>
</thead>
<tbody>
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<td>C ut 8</td>
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<td>sol 12</td>
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<td>D re 8</td>
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<td>sol 5</td>
</tr>
<tr>
<td>D re unisonus</td>
<td>fa 3</td>
<td>la 5</td>
</tr>
<tr>
<td>E ut 3 desuper</td>
<td>mi unisonus</td>
<td>sol 3</td>
</tr>
<tr>
<td>F re 3 desuper</td>
<td>fa unisonus</td>
<td>la 3</td>
</tr>
<tr>
<td>G re 5 desuper</td>
<td>mi 3 desuper</td>
<td>sol unisonus</td>
</tr>
<tr>
<td>A ut 6 desuper</td>
<td>re 5 desuper</td>
<td>fa 3 desuper</td>
</tr>
<tr>
<td>B re 6 desuper</td>
<td>mi 5 desuper</td>
<td>sol 3 desuper</td>
</tr>
<tr>
<td>C ut 8 desuper</td>
<td>mi 6 desuper</td>
<td>fa 5 desuper</td>
</tr>
<tr>
<td>D re 8 desuper</td>
<td>fa 6 desuper</td>
<td>sol 5 desuper</td>
</tr>
<tr>
<td>E ut 10 desuper</td>
<td>mi 8 desuper</td>
<td>sol 6 desuper</td>
</tr>
<tr>
<td>G ut 8</td>
<td>mi 10</td>
<td>sol 12</td>
</tr>
<tr>
<td>A re 8</td>
<td>fa 10</td>
<td>la 12</td>
</tr>
<tr>
<td>B ut 6</td>
<td>mi 8</td>
<td>sol 10</td>
</tr>
<tr>
<td>C ut 5</td>
<td>re 6</td>
<td>fa 8</td>
</tr>
<tr>
<td>D re 5</td>
<td>mi 6</td>
<td>sol 8</td>
</tr>
<tr>
<td>Note</td>
<td>Mi</td>
<td>Fa</td>
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<td>--------</td>
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<td>------</td>
</tr>
<tr>
<td>E ut 3</td>
<td>mi 5</td>
<td>fa 6</td>
</tr>
<tr>
<td>F re 3</td>
<td>fa 5</td>
<td>sol 6</td>
</tr>
<tr>
<td>G ut unisonus</td>
<td>mi 3</td>
<td>sol 5</td>
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<td>A re unisonus</td>
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<td>la 5</td>
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<tr>
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<td>la 3</td>
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<td>D ut 5 desuper</td>
<td>mi 3 desuper</td>
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<td>fa 3 desuper</td>
</tr>
<tr>
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<td>sol 3 desuper</td>
</tr>
<tr>
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</tr>
<tr>
<td>A re 8 desuper</td>
<td>fa 6 desuper</td>
<td>sol 5 desuper</td>
</tr>
<tr>
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<td>mi 8 [desuper]</td>
<td>sol 6 [desuper]</td>
</tr>
<tr>
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<td>la 6 [desuper]</td>
</tr>
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<td>mi 10 [desuper]</td>
<td>sol 6 desuper</td>
</tr>
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</tr>
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<td>sol 19</td>
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<td>la 19</td>
</tr>
<tr>
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<td>mi 15</td>
<td>sol 17</td>
</tr>
<tr>
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<td>re 13</td>
<td>fa 15</td>
</tr>
<tr>
<td>D re 12</td>
<td>mi 13</td>
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<td>re 6</td>
<td>fa 8</td>
</tr>
<tr>
<td>D re 5</td>
<td>mi 6</td>
<td>sol 8</td>
</tr>
<tr>
<td>E ut 3</td>
<td>mi 5</td>
<td>fa 6</td>
</tr>
<tr>
<td>Key</td>
<td>Note 1</td>
<td>Note 2</td>
</tr>
<tr>
<td>------</td>
<td>--------</td>
<td>--------</td>
</tr>
<tr>
<td>F re</td>
<td>fa 5</td>
<td>sol 6</td>
</tr>
<tr>
<td>G ut</td>
<td>mi 3</td>
<td>sol 5</td>
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<td>A re</td>
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<td>la 5</td>
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<tr>
<td>B ut</td>
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<td>sol 3</td>
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<td>C re</td>
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<td>la 3</td>
</tr>
<tr>
<td>D ut</td>
<td>mi 3 desuper</td>
<td>sol unisonus</td>
</tr>
<tr>
<td>E ut</td>
<td>re 5 desuper</td>
<td>fa 3 desuper</td>
</tr>
</tbody>
</table>
Chapter III. Theories of Fauxbourdon And Gymel

The importance of Guilielmus Monachus's treatise, De preceptis artis musicae, lies primarily in its contribution to our understanding of the practice of Fauxbourdon and Gymel in the fifteenth century. Guilielmus treats this topic in chapters IV and VI of his work. These chapters provide the most complete discussion of the practice of Fauxbourdon and Gymel available among extant treatises, providing a treatment of the rules of counterpoint as well. Under the single designation *modus faulxbordon*, Guilielmus presents several different descriptions, which have always been the subject of controversy in discussions of Fauxbourdon and Gymel. Certain passages in these descriptions have been misinterpreted by scholars, a problem brought about in part because of mistakes in the copying of the musical examples in the sole manuscript of the treatise, and in part because of inconsistencies between the examples and the text.

Guilielmus gives his first description of Fauxbourdon in chapter IV, under the title *Ad habendum veram et perfectam cognitionem modi Anglicorum*. He states:
Nota quod ipsi habent unum modum qui modus faulxbordon nuncupatur, qui cum tribus vocibus cantitur, scilicet, cum suprano, tenore et contratenore. Et nota quod supranus incipitur per unisonum, qui unisonus accipitur pro octava alta, et ex consequenti per tertias bassas, quae tertiae bassae volunt dicere sive representare sextas altas, et postea revertendo ad unisonum, qui vult dicere octavam, ut patet per exemplum. Contra vero accipit suam primam consonantiam guintam alta supra tenorem et post tertias altas usque finem concordii in quintam altam, ut patet per exemplum. (IV, 1-4)

(Note that they have one manner, called Fauxbourdon, which is sung with three voices, namely, with soprano, tenor, and contratenor. And note that the soprano is begun at the unison, which unison is taken in place of an octave higher, and thereafter continues by means of thirds below [the tenor], which are meant to express thirds below or to represent sixths above, and afterwards reverting to the unison, which represents the octave, as the example shows. The contratenor, however, takes its first consonance a fifth above the tenor and afterwards moves in thirds above it until the end of the concord at the fifth higher, as is made clear by the example.)

1The theory of "sights" has been discussed in the previous chapter (see chapter commentary on II, "Theory of Counterpoint," pp. 314-321).
This description deals with the most basic manner of Fauxbourdon, which modern scholarship refers to as English discant. Guilielmus explains how to extemporize two upper parts over the given tenor melody, but he does not specify that the tenor is a cantus firmus.\(^2\) The soprano moves a third below the tenor and is transposed by the singer to an octave higher. Thus, in actual sound, the singer sings sixths above the tenor except at the beginning and ending of each phrase, where the voice sings at an octave. The contratenor sings thirds above the tenor, but begins and ends with a fifth. The result is sixth-chord harmony with the written melody in the tenor part, which is the lowest of the three voices (see Example 1).

After the introduction of the English manner of Fauxbourdon, Guilielmus proceeds with a brief description of Gymel (IV, 6). According to him, gymel is a style used in England, which employs upper as well as lower thirds, but begins and ends each phrase with a unison. Besides thirds, Guilielmus also suggests sixths and octaves as proper

\(^2\)Andrew Hughes equates this tenor with a cantus firmus in the article on "Guilielmus Monachus" in *The New Grove Dictionary of Music and Musicians*, vol. 7, P. 815. On the other hand, Brian Trowell notes that Guilielmus's tenor is not a plainsong; nor does his text prescribe a plainsong tenor at this point ("Faburden and Fauxbourdon," *Musica Disciplina*, 1959, p. 65).
Ex. 1 (Ed. Ex. 45): 

Ex. 2 (Ed. Ex. 46):

After the brief description of the practice of both Fauxbourdon and Gymel, Guilielmus gives a "rule for composing
with three independent voices" (two sopranos and a contratenor). Guilielmus does not specify whether this rule refers to the practice of either Fauxbourdon or Gymel. It probably refers to neither, even though his given musical example (Ex.C) is written in Gymel texture. Guilielmus's previous descriptions of both Fauxbourdon and Gymel clearly assume that one voice is given.

Guilielmus specifies that a soprano should be created "in the tone [mode] you wish to use," and that it should be made "not disjunct" [non disjunctum]. The second soprano begins at the unison, continues in thirds below the soprano, and ends with a unison. If the soprano is descending at the antepenultimate and penultimate notes, however, the second soprano should take thirds above the soprano. The contratenor begins at the unison, and then moves in fifths, thirds, and octaves below the soprano, but its penultimate note should be a fifth below (see Example 3).

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3Guilielmus's phrase tribus vocibus non mutatis apparently refers to the fact that none of these voices is derived from a cantus firmus.
The most extensive, and at the same time most problematic, discussion of these issues occurs in chapter VI of *De Preceptis artis musicae*, in a section headed *Regulae contrapuncti Anglicorum*. Here, Guilielmus first makes a brief distinction between the English practices of Fauxbourdon and Gymel, saying that Fauxbourdon is sung with three voices, and Gymel with two. He then proceeds to give a second description of Fauxbourdon. This second definition...
of Fauxbourdon is more detailed than the first one he had given in chapter IV. It begins as follows:

> Si iste modus canatur secundum ipsos Anglicos, debet assumi supranum cantum firmum, et dictus cantus firmus debet regere supranum sive cantum. Sed hoc intelligendum est in numero perfecto qui numerus perfectus trinarius dictur, sive talis ternalitas sit in temporibus, sive in semibrevis, sive in minimis. (VI, 31-32)

(If this manner is sung according to the English themselves, the cantus firmus ought to be taken as the soprano, and the above-mentioned cantus firmus ought to govern the soprano or cantus. But this should be understood in perfect number, which perfect number is called 'threefold,'; whether this threefold nature be in breves, in semibreves, or in minims.)

The obscurity of one of the Latin phrases in this passage and the omission of a musical example have brought about much confusion. The Latin phrase in question is debet assumi supranum cantum firmum, et dictus cantus firmus debet regere supranum sive cantum (VI, 31; "the cantus firmus ought to be taken as the soprano, and the above-mentioned cantus firmus ought to govern the soprano or cantus.

This phrase appears to contradict the previous definition with respect to the placement of the cantus firmus, since in the

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4See Chapter IV, 1-4.
earlier description the cantus firmus was in the tenor (see discussion of section IV, 1-4 above). Trowell understands this second description as prescribing Fauxbourdon with the cantus firmus in the soprano,\textsuperscript{5} and John F. Spratt translates it as "the cantus firmus must be read as soprano, and thus the soprano line follows the notation."\textsuperscript{6} If Guilielmus's statement about the soprano referred to "the cantus firmus in the soprano", however, as Trowell and Spratt interpret it, one would expect Guilielmus to describe the intervallic relationship between voices on the basis of the soprano, rather than the tenor. But he does not. The way he explains the intervals proper to this manner of fauxbourdon indicates that the basis for counting intervals in it is still the tenor, just as it was in the first description, and not the soprano:

\begin{quote}
Habeat supranus pro consonantiiis primam octavam et reliquas sextas, et in fine concordiorum sit octava, hoc est, habeat sex et octo pro consonantiiis supra tenorem. Contratenor vero debet tenere dictum modum suprani; sed quod habeat pro consonantiiis tertiam et quintam altas,
\end{quote}

\textsuperscript{5}Trowell, "Faburden and Fauxbourdon," \textit{Musica Disciplina}, 1959, p. 65.

hoc est, primam quintam, religias tertias; ultimus vero
finis concordiorum sit quinta, ut patebit per exemplum.
(VI, 36-37)
(The soprano should have as consonances first the octave,
and then sixths as the remaining ones, and there should
be an octave at the end of the concords, that is, it
should have sixths and octaves as consonances above the
tenor. The contratenor, however, ought to adhere to the
above-mentioned manner of the soprano; but[note] that
it has as consonances the third and fifth above, that is,
the first a fifth, and the remaining ones thirds; the end
of the harmony should be a fifth, as will be clear in
the example.)

This passage suggests that the progression of consonances
between the soprano and tenor, and between the contratenor
and tenor is the same as in the first description, with the
tenor as the basis for counting intervals in both.\(^7\)

\(^7\)Trowell mistranslates the passage Contratenor vero
debet tenere dictum modum suprani; sed quod habeat pro
consonantiam tertiam et quintam altas, hoc est, primam . . . .
He takes 'habeat' to mean as "the soprano has" instead of
"the contratenor has" resulting in the following translation:
("then the contratenor should keep to the said manner of the
supranus; but when it [the supranus] has for consonances the
upper third and fifth - i.e. first . . . ."). Moreover,
Trowell does not give a further explanation for the
contradictory intervallic relationships between the soprano
and tenor that arise with his reading.
Rather than stipulating that the cantus firmus should be in the soprano, as Trowell and Spratt take it, I would assert that Guilielmus's phrase *assumi supranum cantum firmum* (VI, 31) in this second description implies that the soprano melody should be derived from the cantus firmus. Unfortunately, there is no musical example clearly linked to this second description. The technique of deriving a soprano melody from a cantus firmus, however, can be illustrated by both examples 54 and 58 in the Latin text. (see Examples 4 & 5)

After Guilielmus gives rules for the intervals between voices in this description, he mentions that the following musical example demonstrates the second manner of Fauxbourdon. As mentioned above, there is no example immediately following this statement. The intervallic progression as well as other features of example 54 suggest that it might well be the one Guilielmus designates (see Example 4). There are, however, some problems within this ascription. It does not have a written contratenor, a fact that has led some scholars to assume a mistake in the example. Rather than assuming a mistake in example 54, Hugo Riemann insists that Guilielmus makes a mistake in saying "the fifth and third over the tenor" instead of "the fifth and the third over the cantus firmus" in the third description. (History of Music Theory, p. 253). Guido Adler names the middle part as the contratenor, and the lowest one

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8 Hugo Riemann insists that Guilielmus makes a mistake in saying "the fifth and third over the tenor" instead of "the fifth and the third over the cantus firmus" in the third description. (History of Music Theory, p. 253). Guido Adler names the middle part as the contratenor, and the lowest one.
as the tenor in his transcription. ("Studie zur Geschichte der Harmonie"). If one reads example 54 under their suggestions, however, the intervallic progression between voices does not accord with that in Guilielmus's description.
The mensuration sign (\( \square \)) sign should appear at the beginning of the soprano part, and the sign (\( \circ \)) of the tenor part should be changed to (\( \circ \)). The first note of the cantus firmus should be a longa. The three notes in measure 23 of the soprano part should be changed from (\( \circ \)\( \circ \)\( \circ \)) to (\( \circ \)\( \circ \)\( \circ \)).

Ex. 5 (Ed. Ex. 58):*

\( \square \) Soprano
\( \circ \) Tenor
\( \circ \) Contratenor
\( \circ \) Cantus firmus
The first note of the cantus firmus should be a breve. The second note in measure 13 of the soprano part should be changed from a semibreve to a minim.
however, I would posit that it is correct as it stands, that it does illustrate the second description of Fauxbourdon, and that this description assumes a contratenor that will be sung in sight.

Given the structural parallels that exist between Fauxbourdon "in the English manner" as first described in chapter IV and for the second time here in the chapter VI, one can state that the second description does not contradict the first one except in its different manner of deriving the soprano voice. In both descriptions the soprano melody is derived from the written tenor, whether it is a cantus firmus or not. However, the soprano melody of the second description is more ornamented and elaborate, rather than simply paralleling the tenor melody. The attention given to the soprano part in the second manner of English practice might reflect the manner in which the continental practice of placing the cantus firmus in the soprano part was adopted in England at that time.

The second description of Fauxbourdon practice also implies that if it is sung according to the English manner, the cantus firmus should be understood to be in perfect mensuration at the breve, the semibreve or the minim level. This statement on the use of triple meter in the English practice presents a distinct contrast to the French manner in
that period, which employed duple mensuration for the most part.\textsuperscript{9}

Following his second description of Fauxbourdon, Guilielmus provides yet a third approach to this practice:

\textit{Modus autem istius faulxbordon aliter posset assumi apud nos, non tenendo regulas supradictas, sed tenendo proprium cantum firmum sicut stat, et tenendo easdem consonantias superius dictas, tam in suprano quam in contratenore, . . .penultima vero existente sexta, et sic contratenor sic faciendo, ut patebit per exemplum.} (VI, 38)

(The manner of this Fauxbourdon, however, can be taken differently by us, not adhering to the above-mentioned rules, but holding the cantus firmus properly just as it stands, and by keeping the same consonances mentioned above, both in the soprano and in the contratenor.... but the sixth will be the penultimate, and thus making the contratenor in such way as will be clear through the example.)

[my underlining]

Much confusion has arisen from this third definition, due to the lack of a clear description in the text or a

proper musical example. Two phrases in it have been especially problematic:

Modus autem istius fawlbordon aliter posset assumi apud nos, non tenendo regulas supradictas. (VI, 38) ("However, the manner of this Fauxbourdon can be taken differently by us, not adhering to the above-mentioned rules.")

... sed tenendo proprium cantum firmum sicut stat (VI, 38) (but holding the cantus firmus properly just as it stands)

Drawing their evidence from the first of these passages, Andrew Hughes, Guido Adler, and Albert Seay have presumed that Guilielmus was an Italian theorist because of his apparent distinction of English and French practices from Italian ones by means of the phrase apud nos ("by us").

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12Albert Seay, Guilielmi Monachi De Preceptis artis Musicae, CSM vol. 11, p. 7.

13Other scholars, however, such as Brian Trowell and John Spratt have assumed that Guilielmus was an English monk, since he is well informed about the practice of Faburden and Fauxbourdon in English music (Trowell, "Faburden and
This assumption arises from their understanding of the third description of Fauxbourdon as being a description of continental practice.\textsuperscript{14} As a result, they are then compelled to question why this description of the "continental practice" is not much different from the previous discussion of "English practice". An answer to this question, however, can best be gained by examining more closely the second of the problematic phrases mentioned above.

Scholars have differed rather widely in their interpretations of the second phrase, \textit{sed tenendo proprium cantum firmum sicut stat} (VI, 38; "but holding the cantus firmus properly just as it stands"). Handschin understands it to refer to 'the cantus firmus without melodic ornamentation';\textsuperscript{15} Besseler takes it to mean 'res facta';\textsuperscript{16}

\textsuperscript{14}Ernest Trumble says that "Fauxbourdon \textit{apud nos}" refers to the practice of Fauxbourdon used in Italy, since Guilielmus leaves the subject of Fauxbourdon in England with the section on "Fauxbourdon \textit{apud nos}" and never returns to it ("Authentic and Spurious Faburden," \textit{Revue Belge de Musicologie}, 1960, p. 24).


\textsuperscript{16}\textit{Bourdon und Fauxbourdon}, p. 105.
Bukofzer and Trumble interpret it as 'untransposed'. All of them consider this phrase to be opposite to the phrase in the previous description, debet assumi supranum cantum firmum (VI, 31; "the cantus firmus ought to be taken as the soprano"). Their understanding of this phrase results from their taking 'rules' in the phrase non tenendo régulas supradictas ("not adhering to the above-mentioned rules") to refer to the rule implied in the phrase debet assumi supranum cantum firmum. These 'rules', however, do not refer to the phrase debet assumi supranum cantum firmum in the second description. They signify the rules of cantus firmus that had been presented immediately before: "the first note of the cantus firmus, even if it exists alone, ought to be doubled" (VI, 33); "if after the first or the second note, two [of the cantus firmus] notes are found in the sample place, . . . , the first ought to receive a transition [transitum] or connecting passage [passagium] appearing in the same place and on the same pitch." (VI, 34).

An alternative reading of sed tenendo proprium cantum firmum sicut stat is suggested by a statement further on in

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Trumble notes that this phrase refers to "a cantus firmus at pitch" in the tenor. (See "Authentic and Spurious Faburden," p. 25).
the third description. After saying that the contratenor is to be sung like the soprano but a fourth lower, Guilielmus states that *supranus enim ille reperitur per cantum firmum* (VI, 41; "the soprano is devised through the cantus firmus").\(^{18}\) This phrase is equivalent to *debet assumi supranum cantum firmum* in the second description -- a second description of the *modus faulxbordon Anglicorum*.\(^{19}\)

Thus, in view of this conceptual link with English practice, Guilielmus's third description perhaps should not be understood as that of continental practice, but rather as a description of another "manner of the English practice" of Fauxbourdon.

The entire third description will be more comprehensible if one reads the two phrases in question as follows:

"The manner of this fauxbourdon can be taken differently by us [the English], not adhering to the above-mentioned rules [on the cantus firmus]."

and

"The cantus firmus properly should be taken in the lowest part as written down."

\(^{18}\) *reperitur* can be translated as "devised."

\(^{19}\) See Examples D and E above. See also the discussion of Example 58 below.
Even if the readings just suggested help to clarify Guilielmus's third description of Fauxbourdon, one may still question why he describes this practice by saying *aliter posset assumi apud nos* ("it can be taken differently by us"). This answer to this, I believe, lies in the number and types of voices set out in the third description and in the musical example illustrating it.

Guilielmus's second manner of Fauxbourdon refers only to music consisting of soprano, tenor, cantus firmus, and contratenor altus. In the third description, however, he mentions 'contratenor bassus' for the first time: *In isto enim faulxbordon potest aliquotiens fieri contratenor bassus et altus, ut inferius videbitur* (VI, 39; "In this fauxbourdon the contratenor can sometimes be made low and sometimes high, as will be shown below").

Example 54 immediately follows this statement in the text. This example, however, includes neither a contratenor bassus nor altus. The only example that seems to satisfy the description given by the text is example 58, in which the contratenor bassus does indeed sing in alternating thirds and fifths below the cantus firmus (see Example E above). As in the example 54, the contratenor altus will be sung in sight.

Another apparent difference between the second and third descriptions might lie in the way they approach the
determination of intervals between voices with the respect to the progression of consonances. In the second description of Fauxbourdon, Guilielmus states that the contratenor should have thirds and fifths as consonances above the tenor. In the third description, on the other hand, he says that the contratenor should take a fourth below the soprano. This "difference", however, is more apparent than real. Since, as he says, "the fourth below the soprano becomes the third above the tenor," the musical result is the same in both cases.

Following the third description of Fauxbourdon, Guilielmus returns to the practice of Gymel. He had pointed out at the beginning of Regulae contrapuncti Anglicorum that Gymel is another type of composition which is sung in two voices (soprano and tenor). Here, Guilielmus enumerates several rules for it which consists of more than two voices. As proper intervals in this type of gymel, Guilielmus suggests sixths, octaves both above and below, and tenths below, in addition to the interval of thirds both above and below. As in the practice of fauxbourdon, the cantus firmus should be understood to be in perfect mensuration at the breve, the semibreve or the minim level. The third rule indicates that both Fauxbourdon and Gymel can be sung with four voices, namely, soprano, tenor, contratenor altus and
bassus. Guilielmus's fourth rule concerns the progression of consonances between voices in the practice of both Fauxbourdon and Gymel. According to this rule, a contratenor bassus can be added in Gymel if the soprano sings in sixths and octaves above the tenor, as in the manner of Fauxbourdon. The intervals of the penultimate and antepenultimate in the contratenor bassus and altus are also mentioned: *sed quod semper penultima sit quinta bassa subtus tenorem, quae erit decima cum suprano, et antepenultima erit tertia bassa, ...* (VI, 46; "the penultimate note of the contratenor bassus should always be a fifth below the tenor, which will be at a tenth with the soprano, and the antepenultimate a third below"); *Contra vero altus accipiet suam penultimam quartam supra tenorem et suam antepenultimam tertiam supra tenorem* (VI, 47; "the contratenor altus takes a fourth above the tenor as its penultimate, and a third above the tenor as its antepenultimate.")

The next phrase, *si autem tenent tertias et unisonos, ut patet in isto exemplo, tunc contratenor facit suam penultimam quintam bassam et suam antepenultimam tertiarn bassam vel octavam bassam, vel unisonum cum tenore, et suam ultinam faciendo octavam bassam.* (VI, 49; "If, however, they [the soprano and the tenor] hold thirds and unisons, as it is shown in this example, then the contratenor assumes its
penultimate a fifth below and as its antepenultimate a third or an octave lower, or a unison with the tenor, and assuming an octave below as the final note."). refers to musical example 55 in the text, in which the contratenor bassus takes a twelfth below the soprano as its penultimate, and an octave below as its final note. It cannot clarify the above-mentioned statement, however, unless the last note of the contratenor bassus is emended from D to G to yield the octave specified by the text (see Example 6).20

A series of musical examples follows the second description of Gymel. Examples 56 and 57 represent four different pieces in the manner of Gymel, although they do not exhibit the proper intervallic progression that Guilielmus suggests in the present description of Gymel.21 Example 58 is a piece written in the manner of Fauxbourdon, and almost

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20 In this example, Guilielmus does not specify the name for the lowest part. Guido Adler names it as the cantus firmus, but it should be the contratenor bassus which is to sing to the third and fifth beneath the tenor.

21 A question arises in the transcription of the cantus firmus part that appears at the bottom of the folio. There are four segments in the cantus firmus part. If we regard the first and the last note of each segment as long, and the remaining ones as breves, the first three segments fit the three examples, respectively. However, the remaining last segment does not belong to any previous or following examples. In both example 56 and 57, the middle voice should be a contratenor instead of tenor as Guilielmus names it, and the lowest part is the tenor.
certainly intended as an example for the third description of Fauxbourdon, as mentioned above.

Ex. 6 (Ed. Ex. 55):*

* The last note of the contratenor bassus should be emended from D to G.

The last two sections of this chapter deal with rules for composing in four and three voices. The rules describing compositional practice here and the accompanying musical
examples correspond, in general, to the rules discussed above (see Example 7). 22

Ex. 7 (Ed. Ex. 61):*

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22See Text 36, and 46-7 in Chapter VI.
* The second note from the end of the upper part is a white semibreve, not a minim. The last note in measure 2 and the first note of measure 5 in the contratenor part should be changed from to .

Guilielmus's rules for composing in four voices (soprano, contratenor altus, tenor, and contratenor bassus) refer to the practice of both Fauxbourdon and Gymel. In this practice, the intervals of the note before the antepenultimate, the antepenultimate, and the penultimate in the contratenor bassus should be a fifth lower, third lower, and fifth lower, respectively. It begins at the unison, and ends either with a unison or an octave lower:
. . . facias quod contratenor bassus semper
teneat quintam bassam in penultima concordii. Item,
quod antepenultima sit tertia bassa, et illa quae est
[ante] antepenultimam sit quinta, ita quod principium
sive prima nota sit unisonus et ultima concordii etiam
unisonus vel octava bassa. (VI, 54-5)
(... you should make sure that the contratenor bassus
always hold a lower fifth at the penultimate [note]
of the concord. Likewise [you should make sure] that
the antepenultimate be a third lower, and that which is
before the antepenultimate should be a fifth, so that
the beginning or the first note will be a unison and the
last note of the concord also a unison or an octave
below.)

The soprano begins at the octave, continues in sixths, and
ends with an octave above the tenor. The penultimate note of
the soprano is a sixth above the tenor:

Supranus vero semper teneat suam penultimam sextam
altam supra tenorem, ita quod finis concordii sit
semper octava alta supra tenorem. Et prima nota
pariter etiam sit octava, reliquae autem notulae
sint semper sextae. (VI, 56-7)
(But the soprano should always hold its penultimate
a sixth above the tenor, in such a way that the last
note of the concord is always an octave higher than
the tenor. And the first note likewise should be
an octave; the remaining notes, however, are always
sixths.)
The contratenor altus begins at a unison or an octave lower, continues in thirds, and ends with a unison or an octave lower. Its note before the antepenultimate, antepenultimate and the penultimate is a fourth, a third, and a fourth above the tenor:

Contra vero altus semper faciat suam penultimam quartam supra tenorem, ita quod antepenultima sit semper tertia alta, et illa quae est [ante] antepenultimam sit quarta, et antecedens sit semper tertia, ita quod ultima sit semper tertia alta vel unisonus vel octava bassa, et prima notula priter, . . . . (VI, 58)

(The contratenor altus should always make its penultimate a fourth above the tenor, in such a way that the antepenultimate will always be a third higher, and that which is before the antepenultimate should be a fourth [higher], and the preceding should always be a third, so that the last [note] will always be a third higher or a unison or an octave lower, and the first note likewise, . . . . )

After the description of the practice of both Fauxbourdon and Gymel with four voices, Guilielmus gives two exceptions to these above-mentioned rules. The first exception occurs when the cantus firmus holds the "modus" of
In this case the contratenor bassus holds the modus of the tenor, and the contratenor altus keeps the modus of the contratenor bassus. Guilielmus gives intervallic relationships between voices for the penultimate and the last note that differ from those in the rule immediately preceding. The penultimate and the last note of the contratenor bassus are a sixth and an octave beneath the tenor, respectively. As its penultimate note the contratenor altus holds a third higher than the contratenor bassus; and its final note is a fifth above the contratenor bassus, which is a fourth below the tenor. The penultimate and the last note of the soprano are a fifth above and a tenth above the contratenor bassus. Given the clarity of this description, it is unfortunate that the intervallic progression in the first example of 60 does not illustrate the description in the text (see Example 8).

23 Guilielmus's term _modus_ here would appear to imply melodic category or "church mode," a phenomenon he designates with the term _tonus_ in chapter ix, "Theories of Chant and Mode."
The second exception occurs when the cantus firmus or cantus figuratus holds the modus of the soprano. In this case the contratenor bassus has a third lower as its penultimate, and an octave below the tenor as the last note. The penultimate and the last note of the soprano are a third over the tenor and a unison with the tenor, respectively. The contratenor altus has its penultimate a sixth and its last note a third above the tenor. The second example of 60 illustrates the case of the second exception (see Example 9).
As mentioned at the outset of this discussion, chapters IV and VI of Guilielmus's work present a more extensive discussion of the practices of fauxbourdon and gymel than does any other treatise. Guilielmus's discussion of these practices, however, has always been the subject of some controversy.

One of the main reasons for this controversy is Guilielmus's rather unsystematic organization of the material in chapters IV and VI. In these chapters he not only discusses practice of fauxbourdon and gymel, but also present a theory of counterpoint and rules for composing in three- or four-voices.

As we have seen above, proper understanding of the subject is further impeded by the omission and misplacement of musical examples, inconsistencies between the text and the examples, and the ambiguity of certain Latin phrases. Yet another complication is that Guilielmus presents three different descriptions of the practice of fauxbourdon and two different ones of gymel. Moreover, he does not make any terminological distinction between French fauxbourdon and English discant or faburden. He always uses the French term Fauxbourdon for both Faburden and Fauxbourdon practices, as well as for English discant. This may suggest that faburden and fauxbourdon were considered as much the same practice at that time; it could also be that Guilielmus uses the French term since he was writing this treatise for continental readers.

In conclusion to this investigation of Guilielmus's treatment of fauxbourdon and gymel, and the problems associated with it, let us return to the beginning. Much of
the confusion regarding Guilielmus's views on fauxbourdon and
gymel seems to have been given impetus by his heading for
chapter VI: *Incipit tractatus circa cognitionem contrapuncti, tam secundum modum Francigenorum quam Anglicorum, cum duabus et cum tribus vocibus et cum quatuor compositis* (VI, 1; "Here begins a treatise on the theory of counterpoint composed in
two, three, and four voices, according to the manner of both
the French and the English"). Guilielmus's mentioning of
"the manner of both the French and the English" in this
heading has led scholars to the assumption that Guilielmus's
two descriptions of the practice of fauxbourdon in the
chapter imply the French and the English practices of
fauxbourdon, respectively.

As pointed out above, however, the two descriptions in
chapter VI may be better understood as being two different
descriptions of English practices. Rather than applying to
fauxbourdon, the reference to "the manner of both the French
and the English" in the heading for chapter VI probably
refers to the theory of counterpoint as used in both France
and England, just as Guilielmus himself says: *Incipit tractatus circa cognitionem contrapuncti, tam secundum modum Francigenorum quam Anglicorum, cum duabus et cum tribus vocibus et cum quatuor compositis.*
Chapter IV. Theories of Chant and Mode

The modal theory in the last chapter shows Guilielmus's concerns for mode not only in plainchant but also in polyphonic music: *Tonus, prout hic sumatur, est quaedam regula quae in omni cantu diiudicat et bene dico in omni cantu sive firmo sive figurato* (IX, 1; "Tone, as it is taken here, is a certain rule that makes distinctions in all cantus [melody]; and I say properly; 'in all cantus,' whether firmus [plainchant] or figuratus [polyphony]."). Before presenting a lengthy discussion concerning mode, however, Guilielmus provides basic information on plainchant in fairly conventional manner in chapter four, entitled "Concerning the understanding of cantus firmus." In this chapter he discusses scale names, proprieties, clefs, hexachord, and mutation.

It begins with a presentation of the gamut, which consists of twenty letters: G A B C D E F G; A B C D E F G; A B C D E. The gamut is divided into three sections: *grave* (G A B C D E F G), *acute* (A B C D E F G), and *superacute* (A B C D E). After Guilielmus describes three proprieties (square b, natural, and soft b) and two clef signs (the clef
C sol fa ut and clef F fa ut, he proceeds to discuss the seven hexachords and the process of mutation. He describes the hexachord as a movement through six syllables, namely, ut re mi fa sol la. Following long standing practice there are seven hexachords, subdivided into three categories: the 'hard hexachord' that begins on g with a square b; the 'soft hexachord' that begins on f with a soft b; and the 'natural hexachord' that begins on c (see Example 1):

Ex. 1 (Ed. Ex. 50): *

* Seay misreads the notes for the second hexachord with soft b as A B C D E F F E D C B A.

According to Guilielmus, a mutation is a change from one propriety into another, which is the exchange of a syllable in one hexachord for one in another hexachord. However, mutation from b fa to b b mi is prohibited, since a
mutation can be made only when the pitch in each hexachord is identical. After he discusses mutation, Guilielmus enumerates the seven Boethian consonances with illustrative examples (see Example 2).

Ex. 2 (Ed. Ex. 52):

After having presented the necessary information on the gamut, hexachords, and mutation, Guilielmus turns to a discussion of modes in chapter IX of his work. The system of the church modes, which was the basis of the melodic classification of plainchant as well as medieval and Renaissance polyphonic music, was one of the major concerns of music theorists from the ninth to the sixteenth century. Although some authors enumerate twelve such modes, the great majority discuss only eight. Among the latter are theorists such as the author of the Musica Enchiriadis,¹ Aurelian of

¹Schmid ed., Musica et Scolica Enchiriadis una cum aliquibus tractatulis adiunctis, vol. 3 of Veröffentlichungen der Musikhistorischen Kommission (München: Verlag der
Reome,² Alia musica, John Cotton,⁵ Jerome of Moravia, and Marchetto from the Middle Ages, as well as Tinctoris,⁴ Gaffurius,⁵ Aaron,⁶ and others from the Renaissance.


³ Johannis Affligemensis De Musica cum Tonario, ed. Joseph Smits van Waesberghe, CSM vol. 1, pp. 76-96, 163-200; Also in GS II, pp. 242-244. A translation is available in Huebald, Guido, and John, pp. 87-187.


⁵ Franchinus Gaffurius, Practica Musicae. A translation is available in Franchinus Gaffurius, Practica Musicae, transl. by Clement A. Miller, CSM vol. 20, pp. 50-68.

In his discussion of melodic classification, Guilielmus uses the term "tonus" consistently to refer to mode. He presents eight modes that are divided into four categories, of which each is further divided into "master" and "disciple": Quorum tonorum quatuor sunt magistri, quatuor vero discipuli (IX, 4; "Of these tones, four are masters, and four are disciples.") The four odd-numbered modes are called master or authentic modes and the four even-numbered modes are called disciple or plagal modes. Guilielmus's designations for these four categories are the Greek ordinal numbers protus, deuterus, tritus, and tetrardus, each

7But cf. chapter III above, footnote 23.

Theorists from the ninth to the twelfth century used three terms, "modus", "tonus", and "tropus" variously in their discussions of mode. Each of these terms carries one or more meanings, depending on the individual theorist (cf. Harold S. Powers's article "Mode," in The New Grove Dictionary of Music and Musicians, vol. 7, pp. 378-381).

From the twelfth century onward the term "tonus" seems to have been preferred to "modus" in order to make a distinction between "rhythmic mode" and "melodic classification".

8The use of these Greek ordinal numbers, subdivided into authentic and plagal, was the prevailing means of designating the eight modes among many theorists in the ninth and tenth centuries, such as Aurelian of Reome (Musica Disciplina, CSM vol. 21, pp. 25-45; GS I, pp. 39-54), the author of Musica Enchiriadis (Schmid, Musica and scolica Enchiriadis, p. 22; GS I, p. 159), Regino of Prum (De Harmonica Institutione, GS I, p. 232), and Hucbald (De Harmonica Institutione, GS I, p. 119). Although they are
designating one of the four "finals".\(^9\) Guilielmus states that the four authentic modes were invented by the Greeks, and the four plagal modes, on the other hand, by the Latins. After Guilielmus designates the eight modes using Greek ordinal numbers, he simply numbers these modes from one to eight: protus authentic (1) and plagal (2), deuterus authentic (3) and plagal (4), etc.

According to Guilielmus, the criteria for identifying mode in a given piece are its ascent and descent with respect to the final, along with its incipit, mediant, termination,

---

and seculorum. In the following passages Guilielmus discusses each of these important factors for modal assignment in turn.

The basic range of each mode is normally an octave, but the total range of a melody in a given mode can extend several degrees above or below the final. In the following passages, Guilielmus gives three different descriptions of the permissible extension of each modal range. The first description refers to modal range in plainchant:

10Concerning their range, Marchetto da Padova (Lucidarium, GS III, pp. 101-117; Herlinger, The Lucidarium of Marchetto of Padua, pp. 370-517), Gaffurius (Practica Musicae, transl. by Clement Miller, pp. 45-63), Tinctoris (Liber de natura et proprietae tonorum, CS IV, pp. 24-36), Anselmi (Giuseppe Massera, Geoqius Anselmi, "De Musica", in Historiae Musicae Cultores Biblioteca, vol. XIV [Firenze: Societa Poligra fica Editoriale, 1960], pp. 102-169), and Aaron (Institutione harmonica I, 27-29.) categorize modes into 3 or 5 divisions: perfect, imperfect, and more-than-perfect (Aaron); or perfect, imperfect, pluperfect, mixed, and commixed (Marchetto, Tinctoris, Anselmi, and Gaffurius).

11The first detailed description of the permissible ranges of each mode was given by Pseudo-Odo in his Dialogus in Musica. He allows the extension of the first, third, fifth, and sixth modes to nine tones, and to ten tones for the remaining modes (GS I, p. 259).

Jacobus Leodiensis (Speculum Musicae, ed. Roger Bragard, CSM vol. 3, pp. 106-132) describe the range of each mode in terms of three conjunct diatessarons or two conjunct diapentes.
Secundum beatum Gregorium, qui auctor fuit totius cantus firmi, . . . et vult ipse doctor quod toni magistri non possunt ascendere ultra octo puncta supra fines, ita quod descendat unum punctum subtus fines, sed bene vult dictus doctor quod ad minus tonus magister ascendat quintam, ut patet in suis effectibus. Bene vult dictus doctor sanctus quod toni magistri aliquotiens descendant quartas voces subtus fines et ascendant sex vel septem punctos supra fines, . . . . (IX, 12-13)
(According to the blessed Gregory, who was the originator of all cantus firmi [plainchants], . . . the teacher himself wishes that the master tones not be able to ascend beyond eight notes above their finals, and likewise that they descend one note below their finals. But the said teacher wishes that a master tone should ascend at least a fifth, as is clear in its effects. Well does the said holy teacher wish that the master tones sometimes descend four notes below their finals and ascend six or seven notes above their finals . . . .)

Here, Guilielmus states that the authentic modes should not ascend beyond an octave above their finals, but can descend one note below their finals. The authentic modes should ascend at least a fifth above their finals and may ascend six or seven notes above their finals. The authentic modes
sometimes may descend four notes below their finals. The Introit, *De ventre matris meae*, is given as an example in conjunction with the latter description (see Example 3).

Example 3: The Introit, *De ventre matris meae*:

\[ E \text{ ven-} \text{tre matris meae} \]

\[ vo-ca'-vit me Dö-mi-nus \]

\[ nö-yömi-ne me-o: \text{ et pö-su-it os-me-} \text{um} \]

\[ ut gë-di-um a-cà-tum: \text{ sub tegumén-to ma-nus,} \]

\[ su-ae pro-té-xit me, pö-su-it me qua-si- \]

\[ sa-git-tam e-le-ctam. Pr. Nonum est conß-té-ri Dömi- \]

\[ no: \text{ et psäl-le-re nómi-ni tu-o, 'Altissi-me.} \]

---

12 Tinctoris also mentions that authentic modes can descend below their final as far as a ditone or a semiditone. ("Liber de natura et proprietate tonorum," CS IV, p. 28)

13 The introit, *De ventre matris meae* is in the first mode.

14 This introit is found in *Liber Usualis*, ed. by the Benedictines of Solesmes (Tournai: Desclé and Co., 1938).
Guilielmus also gives the possible ranges for the plagal modes. According to him, the plagal modes can ascend up to four notes above their finals and descend four or five notes below their finals. On occasion, however, they can ascend up to the sixth note above the final.

De discipulis autem non sic est, quoniam discipuli naturaliter descendunt, sed non possunt ascendere. Et nota quod secundum beatum Gregorium isti toni discipuli non possunt naturaliter [ascendere] nisi quartam vocem supra fines et descendunt quatuor vel quinque punctos subitus. Bene verum est quod aliquotiens secundum beatum Gregorium tonus discipulus potest per licentiam aliquotiens ascendere usque ad sextam vocem, sed hoc raro. (IX, 14-16)

(Concerning the disciples, however, it is not so, because disciples naturally descend, but cannot ascend. And note that according to the blessed Gregory, such disciple tones can [ascend] naturally only four notes above their finals and descend four or five notes below. It is quite true, according to the blessed Gregory, that disciple tones can sometimes ascend by licence up to the sixth note [above the final], but this rarely.)

In the next passage, Guilielmus gives other opinions that allow a more extended range than the one mentioned above. While the former description refers to the range of
mode in plainchant, the present descriptions apply to that in polyphonic music:

Nota quod secundum aliquos toni magistri possunt ascendere usque ad decimam vocem supra fines suos, ita quod descendant quatuor punctus subtus fines suos. Istud enim potest intelligi in cantu figurato sive organico vel in cantu prosaico sive prosarum, hoc est, sequentiarum, et non in cantu firma Gregoriano, . . . . (IX, 19)

(Note that according to others, master tones can ascend up to the tenth pitch above their finals, in the same way that they descend four notes below their finals. Such can be understood in melody that is figured or organal, or in melody that is prosaic or of prose, that is, of sequences, and not in Gregorian cantus firmus [plainchant], . . . .)

Guilielmus states that the authentic modes in polyphonic music may ascend up to the tenth notes above their finals, and descend four notes below their finals. Then he shifts to didactic verse to describe more or less the same phenomena, setting out the possible total range of authentic and plagal modes in polyphonic music:

Marchettus, Tinctoris, and Gaffurius explain modes with excessive range as a combination of authentic and plagal forms, which are described as "mixed", or "pluperfect" modes (cf. Marchettus, Lucidarium, GS III, pp. 101-103; Herlinger ed., pp. 373-390).
Sep, quin, ter decimam, prima vocem decimam,
Quorumque finem subtus ordinat unus punctus, etc.
(IX, 20-21)
(The first are the seventeenth, fifteenth,
thirteenth, and tenth pitch, of which one note
below governs the end, etc.)

Se dic sextam cum ceteris supra finalem notabis,
Quorumque finem subtus ordinat quartus punctus.
(IX, 25-26)
(You will notice the sixth with the others above
the final, of which the fourth note below governs
the end.)

This verse indicates that the total range of authentic modes
in polyphonic music can be extended to a seventeenth and that
of plagal modes can be extended to a tenth (the sixth above
and the fourth below the final).

In the next passage Guilielmus gives another opinion
concerning modal range, which might refer to the range of
mode in the practice current in his time. According to this
view, in practice the authentic modes could ascend nine notes
above their final and descend one note below the final. The
plagal modes could ascend up to the seventh pitch above and
descend four notes below their finals:
Impar scandit nonus, descendit ad imum. (IX, 30)
(Odd ascends a ninth, and descends to the bottom.)

Par scandit septimas, quartas descendit ad sedes.
(IX, 32)
(While it rises to the sevenths, it descends fourths to its foundation.)

The beginning notes of a melody are also an important factor in identifying the mode of a piece. Guilielmus's descriptions of each tone in the following verse suggest melodic incipits, but are in fact something else:

---

16 "Odd" refers to the odd-numbered modes, i.e. the first, third, fifth, and seventh modes.

17 The same verse is found in the treatise of Walter Odington (c.1240): Primum cum sexto fa sol la semper habeto. Tertius octavus ut re fa, sieque secundus. La sol la quartus, Ut mi sol tibi quintus. Septimus est mi fa sol; sic omnes esse recordor ("De Speculacione Musice," CS I, p. 262), Petrus de Cruce from the thirteenth century ("Tractatus de Tonis," CS I, pp. 283) and the Anonymous treatise "Octo sunt toni" (Ps. Johannes de Muris, "Ars Discantus," CS III, p. 100) from the fourteenth century also give the verse on the intonation formulas for psalmody. However, the beginning notes of the intonation formula given for the fifth mode by Petrus de Cruce are different from those of Odington and Guilielmus: Primum cum sexto cantu, fa sol la, teneto; Tertius, octavus ut, re, fa, sieque secundus; Septimus incipiet mi, fa, sol, quartus que la, sol, la; Nunc quintum dicas quem, fa la, re, fa bene cantas ("Tractatus de Tonis," CS I, p. 283).
Primus cum sexto fa sol la semper habeto;
Tertius et octavus ut re fa sicque secundus;
lā sol la quartus, ut mi sol sit tibi quintus;
Septimus fa mi fa sol, sic omnes esse recordor.
IX, 35-38
(The first with sixth [tones] always should
have fa sol la; the third and eighth [tones], the
ut re fa, and so, too, the second [tone]; lā sol
la, the fourth [tone]; ut mi sol would be the
fifth for you; the seventh [tone] fa mi fa sol.
Thus I recall all of these to be.)

The given pitches in this passage imply that Guilielmus
is dealing here with the opening melodic formulas of psalm
tones, not with modes or modal formulas (Primum quaerite
regnum Dei, etc.; see Example 4).

Jacobus Leodiensis (Speculum musicae, CSM vol. 3.,
Bk. vi, pp. 226-317), Ps. Simon Tunstede ("Quattuor
Principalia musicae," CS IV, pp. 233-244), and Ugolino of
Orvieto (Ugolini Urbevetanis, "Declaratio Musicae
Disciplinae," ed. by Albert Seay, CMS vol. 7, pp. 84-230)
give more detailed explanations of intonation and differentia
for the psalmody in each mode.

18 Transcribed by Richard H. Hoppin in Medieval Music
(New York: W. W. Norton & Co. Inc.), p. 82.
Example 4: The eight Psalm Tones

<table>
<thead>
<tr>
<th>Intonation</th>
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<th>Flex Tenor</th>
<th>Mediant</th>
<th>Tenor</th>
<th>Termination</th>
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TONUS PEREGRINUS

The first and sixth psalm tones begin fa sol la on F fa ut grave. The second, third and eighth tones begin ut re fa. They differ from each other, however, because ut re fa of the second begins on C fa ut grave, while ut re fa of the third and eighth tones begins on G sol re ut grave. The fourth tone begins la sol la on a la mi re acute; the fifth begins
ut mi sol on F fa ut grave. The seventh tone begins fa mi fa sol on c sol fa ut acute.

The following passage also refers to psalm tones. Guilielmus mentions that as another factor to identify the mode of a psalm tone, the internal cadence must be considered (see example 4):¹⁹

Septimus et sextus dant fa mi re mi, quogue primus; Quintus et octavus dant fa sol fa, sic et secundus; Sol fa mi fa ternus, ut re mi re quoque quaternus.

(IX, 46-48)
(The seventh and sixth, and also the first [tones], give fa mi re mi; the fifth and eighth [tones] give fa sol fa, and so, too, the second [tone]; sol fa mi fa is given by the third [tone], and ut re mi re by the fourth [tone].)

This verse indicates that the first, sixth and seventh tones are mediated by four pitches, fa mi, re mi. The first and sixth tones, however, take their fa in b fa b mi acute with a

¹⁹Both Odington and Petrus de Cruce give the same verse as Guilielmus on the mediation of psalm tones: Septimus et sextus dant fa mi re mi, quogue primus. Quintus et octavus fa sol fa, sicque secundus. Sol fa mi fa ternus, re ut re mi re sicque quaternus (Odington, De speculatione Musice, CS I, p. 262); Septimus et sextus dant, fa, mi, re, mi, quogue primus. Quintus et octavus, fa, fa, sol, fa, sicque secundus, Sol, fa, mi, fa, tertius, re, ut, re, mi, re, sicque quaternus (Petrus de Cruce, Tractatus de Tonis, CS I, p. 283)
b-flat, while the seventh tone takes it in $f$ $fa$ ut acute. Thus, the tones of the first and sixth tones agree in their beginnings and mediants.\(^\text{20}\) The second, fifth, and eighth tones are mediated by three pitches, $fa$ $sol$ $fa$. They differ from each other, however, because the fifth and eighth take their $fa$ in $C$ $sol$ $fa$ ut acute, while the second tone takes its $fa$ in $F$ $fa$ ut grave. The third tone is mediated by four pitches, namely $sol$ $fa$ $mi$ $fa$, taking its $sol$ in $D$ $la$ $sol$ $re$ acute. The fourth tone is mediated by $ut$ $re$, $mi$ $re$ in $G$ $sol$ $re$ ut grave with a square $B$.

The next discussion concerns the finals of the eight modes. According to Guilielmus, there are two kinds of finals: natural or regular finals and unnatural or irregular finals. Regular or natural finals of four categories are $E$, $F$, $G$, and $H$, respectively.

\[
\text{Finem cunctorum cantor dignoscit tonorum,}
\]
\[
\text{Nam finem primi $D$ continet atque secundi,}
\]
\[
\text{Tertius $E$ regitur, qui quarti finis habetur;}
\]
\[
\text{Quintus $F$ finem sextus quoque ponit eundem,}
\]
\[
\text{Septimus et octavus in sola $G$ requiescunt.}
\]
(IX, 57-61)
(The singer distinguishes the final of all tones, $D$ contains the final of the first and second

\(^{20}\)They differ, however, in their seculorum. (see below, text IX, 87-88)
tones, the third is governed by \( E \), which is [also] taken as the final of the fourth; the fifth places \( F \) as its final, and the sixth also the same; the seventh and eighth end in a single \( G \).

The first and second modes are naturally ended in \( D \) grave, in \( D \ sol\ re \); the third and fourth modes in \( E \ la\ mi \) grave; the fifth and sixth modes in \( F \ fa\ ut \); the seventh and eighth in \( G \ sol\ re\ ut \) grave.

Besides the regular finals, some chants could end on alternative finals, such as \( a \), \( b \), and \( c \), that is, on the fifth above the normal finals.\(^2\)

\[\text{sit in } A \text{ primi pariter finisve secundi,} \]
\[\text{tertios } B \text{ iunges quartumque non excludes,} \]
\[\text{sub } C \text{ fundat quintum iunctoque sibi sexto,} \]
\[\text{D subdit septimum addensque sibi octavum.} \]

(IX, 67-70)

(A may be the final of the first as well as the second; you may join, not separate, the third and fourth with \( B \); the fifth is found on \( C \).

\(^2\)These irregular finals are called cofinals or affinales. Marchettus mentions that the doctors of music found four other letters, called "cofinals," on which the modes may occasionally be ended because of necessity: \( ideo a \) doctoribus musicis alie quatuor sunt reperte, que coninales dicuntur, in quibus interdum toni predicti, vel ipsorum aliqui, necessario finiuntur,. (Herlinger, ed., Lucidarium, pp. 376-7).
the sixth connected to it; D subsumes the seventh and additionally the eighth.)

Chants ending on one of these cofinals are normally regarded as transpositions up a fourth or fifth. Guilielmus's passage indicates that chants in the first and second modes could end in A la mi re acute with a square B; those in the third and fourth modes can end in b fa b mi acute with a square b; the fifth and sixth may end in c sol fa ut acute; the seventh and eighth can end in d la sol re. It should be noted, however, that Guilielmus's description of cofinals does not agree with that of other theorists, such as Guido,22 Jerome of Moravia,23 Jacobus Leodiensis,24 and the Monachus Carthusiensis25. According to them, the seventh and eighth modes can end only on G.

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23"Tractatus de Musica," CS I, p. 78
22"Tractatus de Musica Plana," CS II, p. 440
23speculum musicae, CSM vol. 3, p. 100-106.
In the following verse, Guilielmus summarizes the possible ending pitches for both regular and irregular finals:

Sunt in D vel in A primus tonus atque secundus; Tertius et quartus in E vel in B reperiuntur; Sed quandoque per A quartum finiri vidimus, Tunc per B molle locatus; Quintus cum sexto in F vel C locantus, Septimus et octavus in G vel in D requiescunt. (IX, 77-82)
(The first and second modes are in D or in A; The third and fourth are found in E or in B. Sometimes, however, we saw the fourth be ended in A, located thus via by b flat; the fifth and the sixth are placed in F or C. The seventh and eighth end in G or in D.)

As the last important determining principle of mode in psalm tones, Guilielmus discusses the pitches for the seculorum:

Pri re la, se re fa, ter mi fa, quater quoque mi la, Quin fa fa, sex fa la, sep ut sol, oc tenet ut

---

26The same verse is found in the treatise of the Monachus Carthusiensis: Est in D vel in A primus tonus atque secundus. Tertius et quartus in E vel in re locantur. Et quandoque per A quartum finire videbis; Cum quinto sextus vel in F vel in C remanebunt, septimus, octavus in sola G requiescunt ("Tractatus de Musica Plana," CS II, p. 442).
fa. (IX, 88-89)
(The first re la, the second re fa, the third mi fa, the fourth also mi la, the fifth fa fa, the sixth fa la, the seventh ut sol, and the eighth holds ut fa.)

This verse describes the pitch relations between the recitation tone and the seculorum that ends the psalm tone of each mode (see Example 4). According to Guilielmus, when a polyphonic piece or a plainchant of the first mode ends in re [D], its seculorum is begun on the fifth note above it, la [a]. When a second-mode piece ends in re [D], its seculorum is begun on the third note, fa [F]. If a piece in the third mode ends in mi, then its seculorum is begun on the sixth note, fa. If a fourth-mode piece ends in mi [E], its seculorum is begun on the fourth note, la [a]. A fifth-mode piece, ending in fa [F], begins its seculorum on the fifth note, fa [f] with a square B.

27 Perhaps the earliest source to list the beginning pitch of the seculorum in each mode is the Alia musica. among Guilielmus's contemporaries, Gaffurius also makes this distinction (Practica Musicæ, trans. by Clement Miller, pp. 45-63). Moreover Petrus de Cruce (CS II, p. 283) and the Monachus Carthusiensis (CS II, pp. 451 & 470) give similar verses on this pitch relation. The verse of the Monachus Carthusiensis, in particular, is very close to that of Guilielmus: pri, re, la; se, re, fa; ter, mi, fa; quar quoque, mi, la; Quin, fa, fa; fa, la, sex; sep, ut, sol; octo tenet ut, fa ("Tractatus de Musica Plana," CS II, p. 470)
a sixth-mode piece ends in fa [F], its seculorum is begun on the third note, la [a]. If a seventh-mode piece ends in ut [C], its seculorum begins on the fifth above, sol [G]. If an eighth-mode piece ends in ut [C], its seculorum is begun on the fourth note, which is fa [F]. The accompanying musical example is the mnemonic verse in which the initial pitches, final, and the beginning of the seculorum in eight psalm tones are illustrated (See Example 5).

Guilielmus's main concern in this chapter is the characteristics of modes and psalm tones, both of which he refers to with the term "tonus". According to him, range and final are important aspects of modal identification. Along with the eight modes, Guilielmus also defines the eight psalm tones in terms of intonation, mediant, and termination. Many of his predecessors, such as Walter Odington, Petrus de Cruce, and the Monachus Carthusiensis describe each psalm tone along with its associated mode in their discussions of the modes. Guilielmus's presentation of modal theory is essentially identical with earlier descriptions of mode as formulated in the monophonic tradition, but he applies it to polyphony as well. Unlike some of his contemporaries, such as Tinctoris, Gaffurius, and Aaron, Guilielmus does not

28In conjunction with his discussion, however, Guilielmus provides only one musical example, which is monophonic (See Example 3).
Example 5 (Ed. Ex. 67):
mention the role of the tenor as the modal foundation of the whole composition. Moreover, he does not categorize modal range in terms of perfect, imperfect, pluperfect, etc., as Tinctoris and other theorists do. While most of his contemporaries explain the combination of pentachords and tetrachords as the basis of modal structure, this topic is not treated by Guilielmus; likewise, the concept of species of tetrachords and pentachords is not mentioned here.

As was also seen in the preceding chapters, Guilielmus's unsystematic discussion of various aspects of both psalm tone and mode here needs clarification and amplification. Guilielmus's handling of this subject, however, shows his concern for the practical needs of singers, a concern that was also evident in earlier chapters.
Part IV: Conclusion

The *De Preceptis artis musicae* is a concise handbook designed for an easy understanding of the musical practice of its time, the nine chapters of the treatise deal with the most common topics of fifteenth-century music and music theory. Even though the treatise provides information on each subject that is both substantial and comprehensible, however, it may have become clear to the reader that the work as a whole is not organized systematically. For example: An extensive and systematic survey of notational theory is given in the first three chapters and also in the seventh chapter. Even within chapter I, on mensuration signs, there is a section (I, 16-25) that seems distinctly out of place. It should almost certainly appear at the beginning of the second chapter. The fourth and sixth chapters are devoted to the discussion of the practice of fauxbourdon and gymel; the chapter on plainchant (Ch. V) is sandwiched between these two. In the first part of chapter VI the theory of counterpoint is systematically described by means of text and a complete list of notes within the hand. The second part of
the same chapter, however, returns to the discussion of the
theory of fauxbourdon. The eighth and ninth chapters discuss
the rules of syncopation and mode, respectively.

In addition to problems of organization, further
problems are brought about in the treatise in part because of
mistakes in the copying of its musical examples, and in part
because of inconsistencies between the examples and the text.
Thus, the deciphering of the musical examples and the
accurate interpretation of certain passages are the most
difficult tasks facing anyone working with this treatise.

Since Guilielmus is mainly concerned with the practical
needs of singing and playing musicians, he provides only
basic information regarding counterpoint and mode in the
treatise. On issues such as the mensural signs and
proportional theory that are directly relevant to performers,
he provides an extended survey. As noted above, the meaning
of sixty different mensural signs and the temporal
relationships of all levels of notes in each mensuration are
given in a systematic way in the first and seventh chapters;
a treatment of ligatures appears in the second. The third
chapter begins with a theoretical explanation of the various
kinds of proportion. This is followed by a detailed
discussion of the most common and simple proportions, those
that are most necessary for practicing musicians.
The extensive discussion of fauxbourdon and gymel that appears in chapters four and six is a particularly valuable contribution to our knowledge of fifteenth-century musical practice. As noted above, however, it is also the most problematic part of the treatise, due to the unsystematic organization of the material itself, the obscurity of the Latin phrases, and the misplacement of musical examples. These difficulties notwithstanding, a very careful study of the text and examples provides a clear view of the fifteenth-century practice of French and English fauxbourdon. As the result of such study, one comes to the conclusion that French fauxbourdon and English discant or faburden were considered as much the same practice in Guilielmus's time.

In spite of problematic aspects of the treatise, as mentioned above, De Preceptis artis musicæ provides a clear view of Guilielmus's ideas on proportional theory and fauxbourdon practice in his time. Through his eyes we are able to gain great insight into a contemporaneous musician's understanding of the musical practices of the early Renaissance period.
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