



3 1293 10340 2396

This is to certify that the
thesis entitled
THE DE MUSICA MENSURABILI POSITIO
OF JOHANNES DE GARLANDIA:
TRANSLATION AND COMMENTARY

presented by

Charles Stephen Larkowski

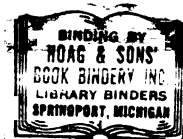
has been accepted towards fulfillment
of the requirements for

Ph.D. degree in Musicology

Major professor

Date August 12, 1977

O-7639





NI-050

In the
organum was fa
tion for syllab
a framework of
Thus, a complet
a thorough stud

The major
Ologne include
Anonymous VII, a
all concern the
Anonymous IV, fo
on rhythmic valu
used much less
examples of the

ABSTRACT

THE DE MUSICA MENSURABILI POSITIO OF JOHANNES DE GARLANDIA: TRANSLATION AND COMMENTARY

By

Charles Stephen Larkowski

In the mid-thirteenth century, modal notation of discant and organum was fairly uniformly established; a system of mensural notation for syllabic music was emerging, but was as yet unstable. Within a framework of common concepts there were many differences of detail. Thus, a complete knowledge of this notation is possible only through a thorough study of all the individual treatises.

The major theorists of the thirteenth century before Franco of Cologne include Walter Odington, Magister Lambertus, Anonymous IV, Anonymous VII, and Johannes de Garlandia. The treatises of these men all concern the same material, but they often differ in emphasis. Anonymous IV, for example, concentrates a great deal of his attention on rhythmic values of ligatures in non-modal contexts, a subject discussed much less extensively by Garlandia. Odington gives complete examples of the hocket, rondellus, and copula, whereas Garlandia and

Anonymous IV a

theorists spea

are a few of ti

of the time.

The De

among the more

tion of both me.

polyphonic gener

discant, and a s

is both speculat

knowledge of the

with by recent s

Butcher's transla

tion of Part VI

writings of the t

only small portio

scholarly research

This study

transcriptions of

Latin text; chapter

of three represent

Anonymous IV are content with verbal description. While most of these theorists speak of six rhythmic modes, Lambertus admits nine. These are a few of the many variations to be found in the theoretical works of the time.

The De musica mensurabili positio of Johannes de Garlandia is among the more comprehensive of these treatises. It explains the notation of both melismatic and syllabic music, and discusses all the major polyphonic genera then used. There are numerous examples of two-voice discant, and a section on consonance and dissonance. Thus, this work is both speculative and practical, and is an important part of our knowledge of the thirteenth century. However, it has not been dealt with by recent scholars in a comprehensive way. Except for Luther Dittmer's translation of Anonymous IV's treatise and Jay Huff's translation of Part VI of the treatise by Walter Odington, the theoretical writings of the thirteenth century are unavailable in English, and only small portions of them have been commented upon in present-day scholarly research.

This study includes an English translation of the Positio with transcriptions of examples where appropriate, placed alongside the Latin text; chapter-by-chapter commentary; and complete transcriptions of three representative examples of thirteenth-century polyphony. The

commentary str

especially those

Just as

all the various

expertise in medi

in their entire

merely to sample

and so it remain

in a comprehensi

the availability

knowledge be com

commentary stresses points of comparison with contemporary treatises, especially those of Anonymous IV and Walter Odington.

Just as theologians develop a concept of theology by studying all the various books of Scripture, so musicologists must develop expertise in medieval notation by examining all the pertinent treatises in their entirety. The student of the Middle Ages must not be content merely to sample the primary sources of our historical understanding, and so it remains for musicologists to complete this work by dealing in a comprehensive way with each of the treatises in turn. Only with the availability of this entire corpus of theoretical writings can our knowledge be complete.

THE DE MUSICA MENSURABILI POSITIO

OF JOHANNES DE GARLANDIA:

TRANSLATION AND COMMENTARY

by

Charles Stephen Larkowski

A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

Department of Music

1977

610707

© Copyright by

Charles Stephen

1977

6107079

© Copyright by

Charles Stephen Larkowski

1977

ACKNOWLEDGEMENTS

Appreciation must be expressed to Professor Richard E. Klausli, whose assistance in the preparation of this dissertation was indispensable; and sincere thanks also to the other members of the Guidance Committee, Professor Theodore Johnson, Professor Russell Friedewald, and Professor David Liptak, for many valuable suggestions. Finally, gratitude is due to Professor Richard E. Sullivan for serving as representative of the College of Arts and Letters at the final examination.

INTRODUCTION.

DE MUSICA MENS

COMMENTARY. .

APPENDIX I. .

APPENDIX II. .

BIBLIOGRAPHY. .

TABLE OF CONTENTS

	Page
INTRODUCTION.	1
<u>DE MUSICA MENSURABILI POSITIO: TRANSLATION</u>	5
COMMENTARY.	128
APPENDIX I.	189
APPENDIX II	211
BIBLIOGRAPHY.	221

The t

de Garlandia a

of these, Brug

They are relat

modes and thei

syllabic notat

positio, is th

the Tractatus

Discantus posi

Cologne, and t

is much longer

tains several

the second cha

through the ei

versions, but

ter divisions.

The sh

positio has fi

INTRODUCTION

The treatise on mensural music generally attributed to Johannes de Garlandia appears in three versions in the medieval manuscripts. Two of these, Bruges 528 and Rome, Vaticana 5325, are nearly identical. They are relatively short and include explanations of the rhythmic modes and their notation as well as a particular form of prefranconian syllabic notation. A third version, entitled De musica mensurabili positio, is the object of this study. It appears as an insertion in the Tractatus de musica of Jerome of Moravia, along with the anonymous Discantus positio vulgaris, the Ars cantus mensurabilis of Franco of Cologne, and the Musica mensurabilis of Petrus Picardus. This version is much longer than the others. The first chapter of the Positio contains several interpolations, mostly concerned with general terminology; the second chapter is much the same in all three versions; the third through the eighth chapters also correspond closely with the other versions, but there is considerable variation in the placement of chapter divisions.

The shorter versions end with the discussion of rests, but the Positio has five more chapters: two on consonance and dissonance; a

long chapter on discant, including illustrations of all possible modal combinations; and separate chapters on organum triplum and organum quadruplum. The final two chapters and the interpolated parts of the first are probably spurious. The literary style changes significantly in the last chapters, which are in many respects nearly unintelligible. A significant portion of these sections is, however, similar to corresponding parts of the treatise of Anonymous IV, suggesting borrowing on the part of the copyist. (For a detailed comparison of the contents of these treatises, see Rudolph A. Rasch, Johannes de Garlandia, 1969, pp. 7-24.)

The identification of Johannes de Garlandia has been a difficult problem. The author of the musical treatise is generally identified as a grammarian who was born in England around 1195, and who was later a member of the faculties of the Universities of Paris and Toulouse. His surname probably came from the clos de Garlande, a Paris district which included part of the University. This person is known to be the author of several works in verse and prose, including a word-list, the Dictionarius; a didactic poem on the proper behavior of university students, the Morale scholarium; a long poem which is essentially an apology for the crusades, the De triumphis ecclesiae; and several treatises on rhetoric and metrics. A more complete account of the works of Garlandia and the problem of identification can be found in The Life and Works of John of Garland by Louis J. Paetow (Memoirs of

the University of California, Vol. IV, No. 2, 1927, esp. pp. 83-148).

There is little indication in the authenticated works of Garlandia that he had any special expertise in music other than that attained by any student of the liberal arts. Also, though there are numerous cross-references to other works, there is no mention of any musical treatises. The relatively plain literary style of the musical treatises generally attributed to Garlandia bears little resemblance to the rhetorical diction of the other writings, but the method of presentation employed often bears the marks of a scholasticism that approaches the sophistic. Thus, any attribution is problematic, but of the many treatises on music which have been ascribed to him, some may definitely be dismissed. These include the Introductio musicae planae secundum Johannem de Garlandia and the Optima introductio in contrapunctum, as well as ascribed quotations in treatises by Robert de Handlo and Johannes Hanboys. This leaves the De musica mensurabili and De musica plana, found side by side in the above-mentioned Vatican manuscript. The others include notational features which could only date from the fourteenth century, and this has led Coussemaker and others to postulate the existence of a Johannes de Garlandia the Younger. There is, however, no further evidence for the existence of such a person, and so it seems likely that the ascriptions were made simply for reasons of authority, a practice common enough at the time (see Gustave Reese, Music in the Middle Ages, 1940, p. 287).

This study includes a Latin text and a translation of the Positio. The Latin is essentially the rendition of Coussemaker (Scriptorum de musica medii aevi, I, pp. 97-117), but it includes many changes incorporated from the edition of the Tractatus de musica published by Simon Cserba (Hieronymus de Moravia, O.P.: Tractatus de musica, 1935, pp. 194-229), as well as editorial revisions and corrections of passages which were obviously incorrect or unclear in the original. Thus, this is intended as a practical text rather than a critical edition. (A critical edition of the shorter version of the treatise was published by Erich Reimer in 1972 [see Bibliography].)

The second part attempts to clarify the more obscure points of the treatise and to supply comparisons with other treatises which are roughly contemporary, notably those of Anonymous IV and Walter Odington. This is a chapter-by-chapter commentary, although some points of discussion necessarily draw on materials of several chapters.

Following standard practice, the transcriptions given as part of the translation and in the Appendix are in $\overset{6}{8}$, and the plica is indicated by a short stroke through the stem of the plica-tone. Editorial additions and emendations are indicated by brackets. In many cases, the transcription is admittedly only one of several possible solutions, and sometimes no fully satisfactory rendition is possible without alteration of the original.

DE MUSICA MENSURABILI POSITIO: TRANSLATION

*De musica mensurabili
positio*

Habito, inquit Johannes, de cognitione planae musicae et omnium specierum soni, dicendum est de longitudine et brevitae eorum, quae apud nos modus soni appellatur. Unde modus est cognitio soni in acuitate et gravitate, secundum longitudinem temporis et brevitatem. Et potest dupliciter sumi, aut communiter aut proprie. Modus communis est qui versatur circa omnem longitudinem et brevitatem omnium sonorum. Modus proprius est qui versatur circa VI modos antiquos.

Treatise on Mensural
Music

I have spoken, says Johannes, about the knowledge of plain music and all the species of sound, and now the length and brevity of these sounds must be spoken of, which among us is called modus. Modus is the study of sound in its sharpness and gravity, according to the length or shortness of time. And this can be understood in two ways, either commonly or properly. The common mode is that which is concerned with the length and brevity of all tones. The proper mode is that which involves the six ancient modes.

Quorum modorum primus constat longa brevi, longa brevi, etc.; secundus brevi longa, brevi longa; tertius longa duabus brevibus, longa duabus brevibus, etc.; quartus duabus brevibus longa, etc.; quintus omnibus longis; sextus omnibus brevibus. Aliqui addunt modos alios, sed non est necessarium illos numerare, ut duae longae et brevis, quia per istos VI sufficientiam possumus habere.

Omnium aliorum sonorum triplex est modus: unus in plenitudine vocis, alter est sub voce cassa, tertius sub voce amissa.

Recta brevis est quae unum tempus continet. Unum tempus est quod minimum in plenitudine vocis est. Recta longa est duas recta breves continens tantum. Obliqua

Of these modes the first consists of long, breve, long, breve, etc.; the second, breve, long, breve, long; the third, long, two breves, long, two breves, etc.; the fourth, two breves and a long, etc.; the fifth, all longs; the sixth, all breves. Other writers add additional modes, such as two longs and a breve, but it is not necessary to list them, because these six are sufficient.

Of all other sounds there are three types: in plenitudine vocis, sub voce cassa, and sub voce amissa.

The correct breve is that which contains one tempus. A tempus is that unit which in singing is smallest. The longa recta contains only two breves rectae. The oblique long is that which exceeds the value of the longa recta. The duplex longa

longa est quae abundat super rectam longam. Duplex longa est quae plures longas in se continet. Aliqua longa est quae circumflectit se versus acuitatem vel gravitatem. Et dicitur recta et obliqua.

Modorum alius perfectus alius imperfectus. Perfectus modus dicitur qui finit per talem quantitatem per qualem incipit, ut longa, brevis, longa. Imperfectus est qui terminatur per aliam quam per illam in qua incipit. Sic apparet, quod sunt XII modi cum perfectis et imperfectis, sine aliis.

Modus rectus est qui procedit per rectas longas et rectas breves. Obliquus est qui praecedit per aliquas longas et aliquas breves. Regula cognitionis temporum: longa ante longa valet tria tempora. Secunda regula est: duae rectae

is that which contains more than one long in itself. Another type of long is that which bends itself toward sharpness or gravity. It is called both recta and oblique.

Some modes are perfect, others imperfect. A mode is said to be perfect which ends with the same value with which it began, such as long-breve-long. It is imperfect when it ends with a value other than that with which it begins. Thus it is clear that there are twelve modes counting the perfect and the imperfect, and no others.

The modus rectus is that which proceeds with rectae longs and breves, and the oblique is that which proceeds with other types of longs and breves. A rule for the determination of duration: a long before a long has a value of three

breves valent una rectam longam.

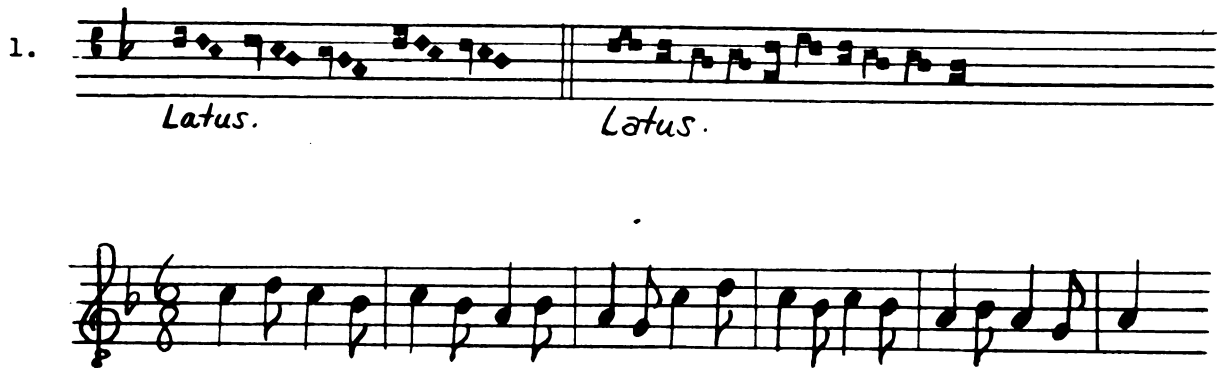
Tertia regula est: multitudo brevium simul quanto magis appropinquatur fini, tanto debet longior proferri. Unde sequitur quod primus, secundus, sextus dicuntur modi recti, tertius, quartus, quintus dicuntur obliqui. Sed aliqui volunt quod quintus noster modus sit primus omnium; et bona ratio, quia per istum modum precedit omnes nostros modos. Sed quo ad tempora cognoscenda, prius est modus rectus quam obliquus, et sic non valet quod dicitur, quod quintus est primus. Ordo modorum est numero punctorum ante pausionem. Iste ordo dividitur in primum, secundum et tertium, etc. Ordo autem procedit ab uno principio, principium a radice.

tempora. A second rule is this: two rectae breves have the value of one longa recta. A third rule is this: the more the end of a great number of breves is approached, the longer they ought to be sustained. Whence it follows that the first, second, and sixth modes are called modi recti, and the third, fourth, and fifth are called oblique. But some hold that our fifth mode should be the first. And there is good reason, for this mode precedes all our other modos. But in order to determine the durations it first must be determined whether the mode is rectus or oblique, and thus it does not matter whether it is said that the fifth mode is the first. The ordo of the modes is the number of puncti (pattern repetitions) before a pause. The ordo is divided

*Radix est quilibet cantus primo
datus. Exemplum primum primae
radicis:*

into first, second, third, etc.

The ordo, moreover, proceeds from one principle, and the principle from a root. This root is whatever cantus was first given. The first example of the first root:



*Et notandum quod principium
cujuslibet modi caret omni
pausatione.*

It should be noted that the foundation (principle) of any mode lacks any pauses.

*Primus ordo primi modi perfecti: Modus obliquus habet plures
considerationes, ut patet in tertio, quia tertius constant ex longa
et duabus brevibus, et duae breves
equipollent longae, et longa ante*

The first ordo of the perfect first mode: An oblique mode has further considerations, as is clear in the case of the third mode, because the third mode consists of a long and two breves, and two breves

longam valet longam et brevem, et sic valet tria tempora. Quare longa ante duas breves valet tria tempora, et sic valet longam et brevem vel brevem et longam.

Item duae breves equipollent longae. Ergo si ponantur ante longam valent tria tempora, ergo valent longam et brevem vel e converso. Unde regula: si sint plures breves in modis obliquis, quae magis appropinquant fini, longior debet proferri; ergo illae duae valent brevem et longam et non longam et brevem. Quare tertius modus et quartus potius reducuntur ad secundum quam ad primum. Sed quintus indifferenter ad primum et secundum potest reduci, unde quintus modus constat ex omnibus longis. Et sic quaelibet longa est ante aliam

are equivalent to a long, and a long before a long is equivalent to a long plus a breve, and thus has the value of three tempora. For this reason a long before two breves has the value of three tempora, and thus equals a long plus a breve, or a breve plus a long.

Likewise, two breves are equivalent to a long. Therefore, if they are placed before a long, they have the value of three tempora, or a long plus a breve or vice versa. Hence the rule: if there are several breves in the oblique modes, the more they approach the end, the longer they ought to be held. Therefore these two (breves) have the value of a breve and a long, and not a long and a breve. For this reason the third and fourth modes are reduced to the second mode and not to

longam. Quare quaelibet valet tria tempora confuse et non distincte, et sic valet longam et brevem vel e converso. Et sic potest reduci ad primum et secundum confuse, et mediante secundo potest reduci ad tertium et ad quartum, quamvis omnes modi ad primum et ad secundum possunt reduci. Sed in isto modo aliter respicimus pausationem quam in aliis modis; cum in aliis modis quanta est penultima, tanta est pausatio. Et hic ex toto ista regula non observatur, sed in parte, quia est pausatio longa et aliquotiens brevis, sive fuerit modus perfectus, sive imperfectus. Sed si fuerit longa, erit propria sua pausatio brevis accommoda, ut in sequentibus patebit.

the first. But the fifth mode can be reduced to the first or second mode interchangeably, since it consists of all longs. Thus each long is before another long. For this reason each one has the value of three tempora with no distinction between them, and each one has the value of a long and a breve or vice versa. Thus it can be reduced to the first or second mode equally well, and, with the underlying pulse of the second mode, can be reduced to the third or fourth mode, to the extent that any mode can be reduced to the first or second. But in this mode we consider the pause differently from that of other modes, since in other modes the pause is as long as the penultimate note; here this rule is not observed totally, but only in

Sextus .

ad primum ve

do reducitur

in longam et

unius tempori

ducitur ad se

per brevem et

duorum tempori

modum totalit

culariter; so

tiones breves

bus sive perf

tis, secundum

modum tertii

fecti erunt.

existunt et d

Sextus modus potest reduci ad primum vel secundum. Sed quando reducitur ad primum, terminatur in longam et habet pausationem unius temporis; quando autem reducitur ad secundum, tunc finitur per brevem et habet pausationem duorum temporum. Sed ad proprium modum totaliter non fit, sed circulariter; soni ultimi et pausiones breves semper et in ordinibus sive perfectis sive imperfectis, secundum magis et minus ad modum tertii perfecti vel imperfecti erunt. Habito de modis existunt et de eorum partibus.

part, because the pause is sometimes long and sometimes short, according to whether the mode is perfect or imperfect. If it should have been long, it might fittingly be short, so that it falls in proper sequence.

The sixth mode can be reduced to either the first or the second. But when it reduces to the first mode, it ends with a long and has a pause of one tempus; when it is reduced to the second mode, then it ends with a breve and has a pause of two tempora. But this is not always done according to the proper mode, but only sometimes; the last notes and the rests are always breves in both perfect and imperfect ordines, usually in combination with the third mode, whether perfect or imperfect. I have spoken of the modes and of their parts.

Sequitur
earum sig

Figura,

est signum de

sonos secundum

is atque brevis

quaedam simple

ita vel ligata

Simplicium qua

quaedam brevis

dicuntur punct

modus, scilicet

superabundans

Recta lon

tudo non trans

cum tractu des

dertra, ut hic

*Sequitur de figuris et
earum significationibus*

*Figura, ut hic accipitur,
est signum denotans sonum vel
sonos secundum tempus longitudin-
is atque brevitatis. Figurarum
quaedam simplex, quaedam compos-
ita vel ligata, quod idem est.
Simplicium quaedam dicitur longa,
quaedam brevis. Longarum quae
dicuntur puncta longa triplex est
modus, scilicet recta longa et
superabundans et plica.*

*Recta longa est cujus lati-
tudo non transit longitudinem,
cum tractu descendente a parte
dextra, ut hic:*

II. Concerning the notes
and their meanings

A figure, as this is under-
stood, is a sign denoting a tone
or tones according to its length
or brevity. Certain figures are
simple, and others are composite
or ligated, which is the same.
Some single notes are said to be
longs, some breves. Of longs,
which are called puncta longa,
there are three types, that is,
recta, superabundans, and plica
longa.

The recta longa is that whose
width does not exceed its length,
with a stem on the right side, as
here:

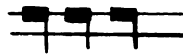
2.



Superabundans sive duplex

longa, quod idem est, cujus latitudo transit longitudinem cum tractu praedicto, ut hic declaratur:

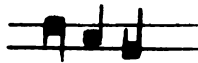
3.

The superabundans or duplex

longa, which are the same, is that whose width exceeds its length, with a stem as above, as is shown here:

Plica duplex est, ascendens et descendens. Descendens cum duplici tractu fit, ascendens cum tractu vel duplici, sed semper longior est tractus a parte dextra, ut hic:

4.



The plica is of two types, either ascending or descending. Descending, it is made with two stems; ascending, with one or two stems, but the longer stem is always on the right, as here:

Brevium triplex est modus, scilicet recta brevis recte posita, et est cujus latitudo non

There are three types of breve, that is the recta brevis, placed squarely, its width not exceeding

*transit longitudinem et sine
tractu, ut hic patet:*

its length, and without a stem,
as is shown here:

5.



*Et est semibrevis obliqua
posita, ut hic apparet:*

And there is the semibrevis,
placed obliquely, as it appears
here:

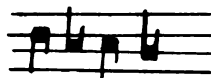
6.



*Est et alia plica brevis,
et fit quando longior tractus fit
a parte sinistra, ut hic:*

And there is the plica brevis,
made when a longer stem is placed
on the left, as here:

7.



*Figura composita vel ligata
est, quando plura puncta in unum*

A figure is composite or
ligated when several notes are

conjunguntur a puncto ad punctum, *ascendentes* vel *descendentes*:

joined into one, one note to another, ascending or descending:

8.



Figurarum quaedam dicuntur ascendendo, quaedam descendendo, et hoc a parte principii vel finis. Item quaedam dicuntur perfectae, item quaedam cum proprietate, quaedam sine.

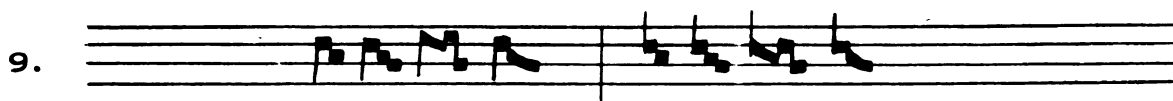
Some figures are called ascending, some descending, and this is according to the beginning or end. Likewise some are called perfect, and some are said to be cum proprietate and some sine proprietate.

Descendens dicitur figura, quando secundus punctus inferior est primo, ascendens e converso.

A figure is said to be descending when the second note is lower than the first, and vice versa for an ascending figure.

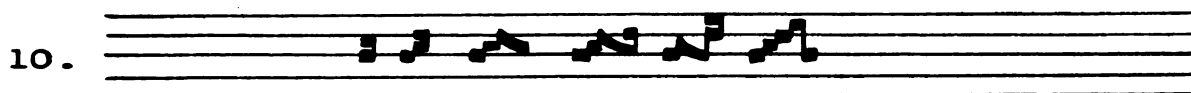
Cum proprietate descendente dicimus, quando primus punctus habet tractum descendentem a latere sinistro. Si tractus fuerit ascendens, cum proprietate opposita dicitur, ut hic:

A descending figure is said to be cum proprietate when the first note has a descending stem on the left; if the stem ascends, it is said to be cum opposita proprietate as here:



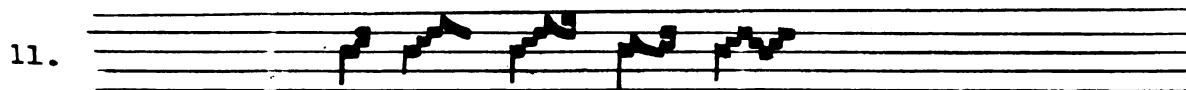
In figure ascendente proprietas sua est, quando primus punctus non habet tractum, ut hic patet:

In the case of an ascending figure its propriety is when the first note has no stem, as is shown here:



Sed sine proprietate dicitur, si habet tractum, ut hic:

But it is termed sine proprietate if it has a stem, as here:



Et sic intellegimus de figura descendente ad suum contrarium, ut hic:

And thus we mean the contrary in the case of a descending figure, as here:

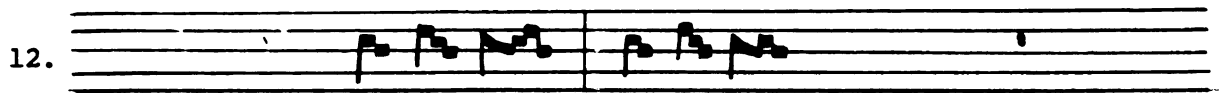
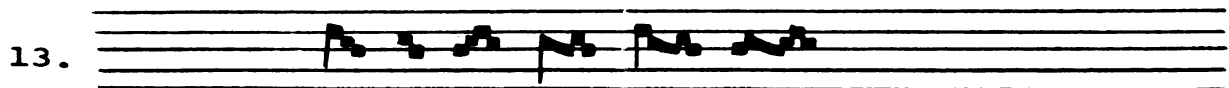


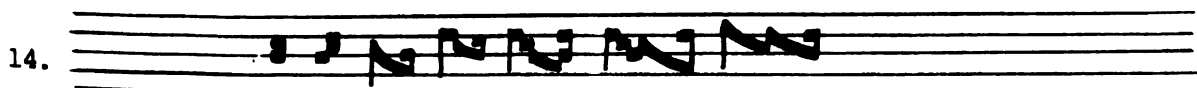
Figura perfecta in fine dicitur, quando tractus a paenultima ad ultimam fuerit descendens perpendiculariter, et hoc in figura descendente in fine; et hoc est, quando ultima fuerit inferior paenultima, ut hic:

A figure is said to be perfect with respect to its end when a descending perpendicular line is drawn from the penultimate to the last note, and this is for a figure which descends at the end. This is when the last note is lower than the penultimate, as here:



Sed in figura ascendente in fine est perfectio cujus ultimus punctus recte jacet super paenultimum:

But the perfection of a figure ascending at the end is when the last note lies squarely above the penultimate:



Imperfe

sive fuerit

dens, si ult

obliquus ad

patet:

15.

Sequit

figura

Omnis F

prietate pos

ultima dici

ultima longa

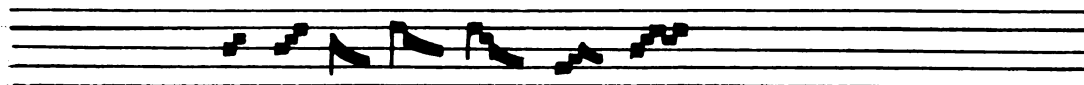
tunc omnes

hic:

*Imperfecta vero dicitur,
sive fuerit ascendens vel descen-
dens, si ultimus punctus fuerit
obliquus ad paenultimam, ut hic
patet:*

It is said to be imperfect,
whether ascending or descending,
if the last note is oblique with
respect to the penultimate, as
is shown here:

15.



*Sequitur de regulis
figurarum ad invicem
ligatarum*

III. Concerning the rules
for ligated figures
in turn

*Omnis Figura ligata cum pro-
prietate posita et perfecta, pae-
nultima dicitur esse brevis, et
ultima longa, si sint precedentes,
tunc omnes ponuntur pro longa, ut
hic:*

In the case of any ligated
figure with propriety and perfec-
tion the penultimate note is said
to be a breve and the final note
a long. If there are one or more
preceding notes, then all together
have the value of a long, as here:

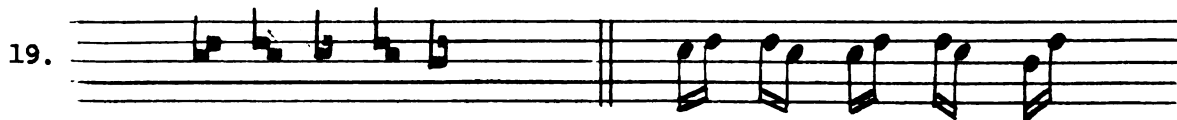
*Omnis ligatura cum proprie-
tate opposita et perfecta, ultima
est longa, et omnes precedentes
ponuntur pro brevi, si sint ibi
plures:*

In the case of any ligature
with opposite propriety and with
perfection the final note is a
long, and all preceding notes to-
gether take the value of a breve,
if there are more than one:



*Sed si sint duae tantum, non
valent nisi brevem, ut hic
patet:*

But if there are only two notes,
they equal only one breve, as is
shown here:



*Omnis figura cum plica et cum
proprieta et perfecta, ultima*

In the case of any figure with
plica and with propriety and

*cum plica valet longam; quod non
aliud est quam signum dividens
sonum diversum, ut hic:*

perfection, the last note with the
plica equals a long, because this
is nothing other than a sign divid-
ing a tone into two, as here:



*Omnis figura cum plica, sine
opposita proprietate sumitur ut cum
proprietate vel non, et perfecta
vel imperfecta.*

Any ligated figure with plica
and without opposite propriety is
understood as with or without pro-
priety and with or without perfec-
tion.

*Omnis figura imperfecta sumi-
tur tripliciter, aut cum proprie-
tate et plica, vel sine plica:*

Any imperfect figure is under-
stood in three ways, either with
propriety and plica, or without
plica:



aut *sine proprietate et cum plica*, or without propriety and with or
 vel *sine plica*, ut sumitur hic: without plica, as is shown here:



aut *cum proprietate opposita et* or with opposite propriety and with
cum plica, vel *sine plica*, ut hic: or without plica, as here:



<p><i>Regula est quod omnis figura</i> <i>imperfecta, si sit cum proprietate,</i> <i>extenditur quoad perfectionem</i> <i>primi modi usque ad primam longam</i> <i>sequentem; si sit sine proprie-</i> <i>tate, extenditur quoad perfec-</i> <i>tionem secundi modi, usque ad</i> <i>primam brevem sequentem. Et totum</i> <i>hoc intellegitur in conductis et</i> <i>in motellis, quando sumuntur sine</i></p>	<p>The rule is that any imperfect fig- ure, if it is with propriety, is extended to the perfection of the first mode, up to the first follow- ing long; if it is without propri- ety, it extends to the perfection of the second mode, up to the first following breve. And all of this is meant with respect to the con- ductus and the motet, whether</p>
--	--

littera vel cum littera. Si proprio modo figurantur, omnes figurae fere accipiuntur imperfecte, et hoc intellegitur in discantu, et ubicunque rectus modus accipitur.

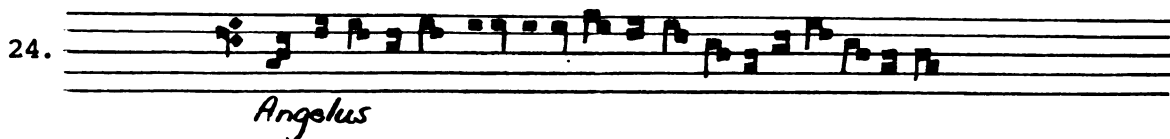
written sine littera or cum littera. If they are written in a proper manner, all figures are as a rule considered imperfect, and this is meant in discant and wherever modus rectus is used.

*Sequitur de probatione
modorum per figuras*

IV. Concerning the demonstration of the modes as written in figures

Prima regula primi modi dicitur esse tres ligatae ad invicem in principio et consequenter cum duae et duae et duae, etc., et hoc totum cum proprietate et perfectione:

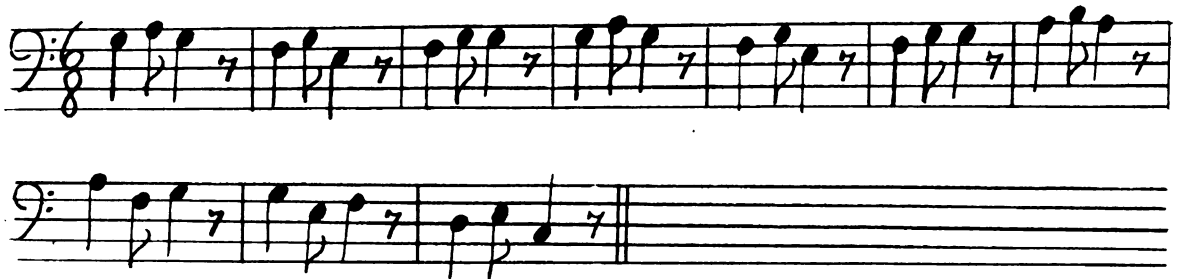
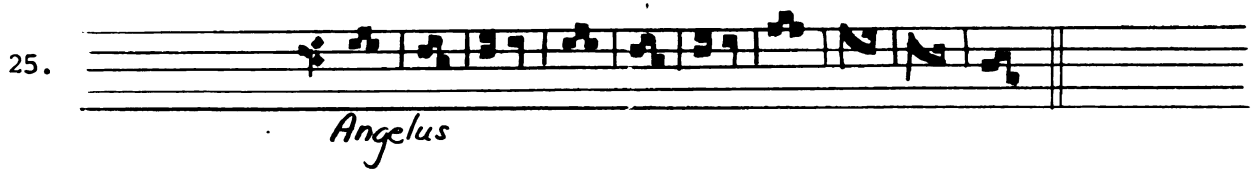
The first rule of the first mode is said to be a three note ligature and then two and two and two, etc., and all of these with propriety and perfection:





*Alia regula re eodem: tres
cum brevi pausatione, et tres cum
brevis, etc., et dicitur esse pri-
mus ordo primi modi perfecti, ut
hic:*

Another rule of the same mode:
a ternaria with a breve-rest, and
a ternaria with breve-rest, etc.,
and this is said to be the first
ordo of the perfect first mode, as
here:



*Secundi modi prima regula
sumitur ita: duae, duae, duae,
cum proprietate et perfectione*

The first rule of the second
mode is understood thus: two, two,
and two with propriety and

et tres in fine sine proprietate

perfection and a ternaria at the

et perfectae, ut hic:

end without propriety and with

perfection, as here:



*Aliter de eodem: tres sine
proprietate et cum perfectione,
cum longa pausatione, et sic in
infinitum, ut hic, et est primus
ordo ejusdem secundi:*

Another rule of the same mode:
A ternaria without propriety and
with perfection with a long-rest,
and so on as here, and this is the
first ordo of the second mode:





*Tertius modus probatur ita per
figuras, quoniam prima est longa et
postea tres ligatae et tres liga-
tae cum proprietate et perfectione,
ut hic:*

The third mode is shown thus
in figures: the first is long and
afterward ternaria and ternaria
with propriety and perfection, as
here:



*Quartus modus sumitur hic:
tres et tres cum proprietate et
perfectione, et duae imperfectae*

The fourth mode is understood
in this way: three and three with
propriety and perfection and an

in fine et cum longa pausatione,

imperfect binaria at the end with

ut hic:

a long-rest, as here:



Quintus modus sumitur hoc

The fifth mode is understood

modo: omnes longae cum longa

in this way: all longs with a

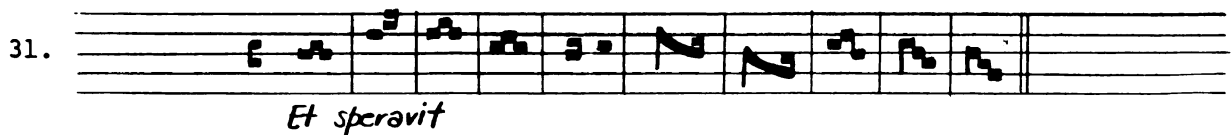
pausa vel brevi, ut hic patet:

long or breve-rest, as is shown here:



Item alia regula de eodem:
tres cum proprietate et perfec-
tione, et cum longa pausatione,
et hoc in infinitum. Et hoc fit
causa brevitatis. Et non proprie
sumitur ita, sed usus est, ut ita
in tenoribus accipiatur:

Likewise, another rule of the
 same mode: three with propriety
 and perfection and with a long-rest,
 and so on. This is done for the
 sake of brevity. It is not proper
 to do it thus, but it is the custom
 that it is done in this way in
 tenors:



Sextus accipitur hoc modo:
quatuor cum proprietate et perfec-
tione cum duae et duae et duae cum

The sixth mode is shown in
 this way: Four with propriety and
 perfection with two and two and

proprietate et plica, ut sumitur

two with propriety and plica, as

hic:

is done here:



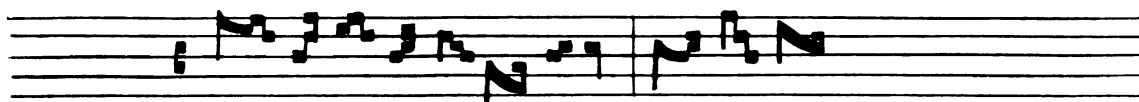
Alia regula de eodem. Sed

Another rule of the same mode.

*non probatur per istam artem, sed
bene probatur per exemplum quod
invenitur in Alleluya Posui adju-
torium in triplo, scilicet quatuor
cum proprietate et perfectione et
tres et tres et tres cum proprie-
tate, etc., ut sumitur in hoc
exemplo:*

It is not approved by this system,
but it is well approved according
to the example found in the trip-
lum of the Alleluia Posui adjutor-
ium, namely, four with propriety
and perfection and three and three
and three with propriety, etc., as
is shown in this example:

33.

*Cernens*

*Sequitur de modis im-
perfectis, quomodo et
qualiter figurantur*

V. Concerning the imperfect
modes and how they are
written

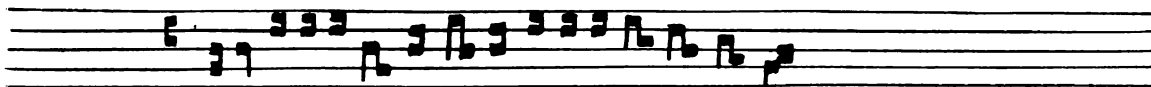
Unde primus modus figuratur

The first mode is written in

*hoc modo: tres cum proprietate
et perfectione, cum duae et duae
et tres in fine sine proprietate,
ut hic patet:*

this way: three with propriety and
perfection with two and two and
three at the end without propriety,
as is shown here:

34.

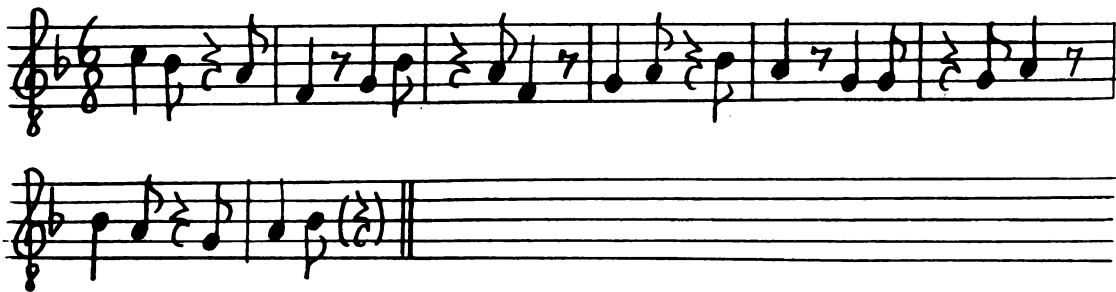
*Audi filia*



*Alia regula de eodem: duae
sine proprietate et debita paus-
atione, et duae cum proprietate
et pausatione debita similiter,
ut hic sumitur:*

Another rule of the same
mode: two without propriety
and the proper rest and, like-
wise, two with propriety and
the proper rest, as is done
here:

35.



*Secundus modus imperfectus
sumitur hoc modo: duae, duae,
duae cum proprietate et*

The imperfect second mode
is written in this way, two, two,
and two with propriety and

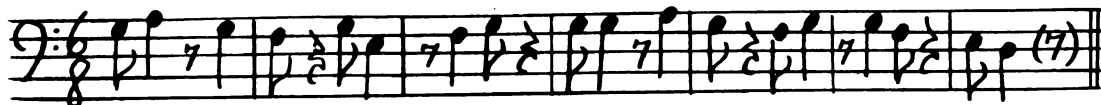
et perfectione ut in exemplo secundi modi perfecti.

Alia regula de eodem: duae cum proprietate et perfectione et debita pausatione, et etiam sine proprietate et cum perfectione et debita pausatione, ut hic:

perfection, just as in the example of the perfect second mode.

Another rule of the same mode: two with propriety and perfection and the proper rest, and then (two) without propriety and with perfection and the proper rest, as here:

36.



Aliter de eodem, tres sine proprietate et cum perfectione, et duae sine proprietate et cum perfectione et debitis pausionibus, ut hic:

Another rule of the same mode: three without propriety and with perfection and two without propriety and with perfection and the proper rests, as here:

37.

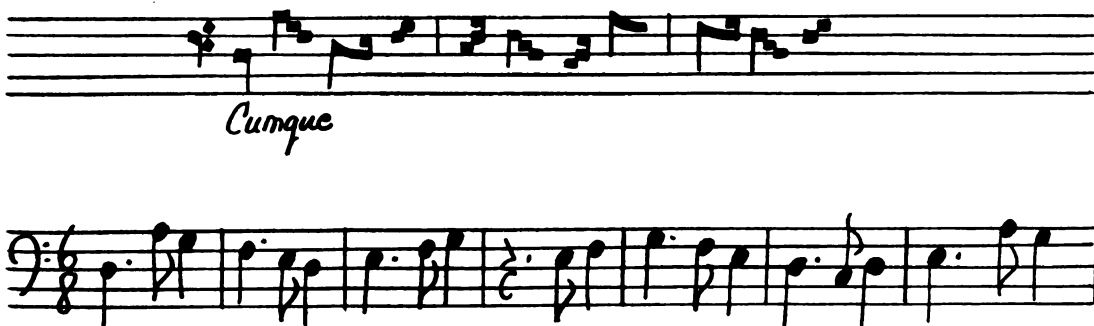
**Tertius modus imperfectus**

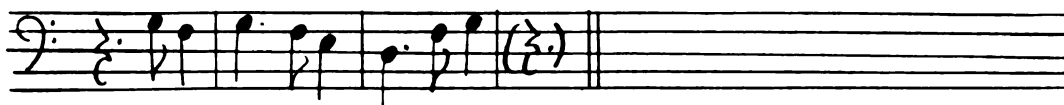
*sumitur hoc modo: sumatur una
longa cum tribus, tribus, tri-
bus, etc. cum proprietate et
perfectione et in fine duae
cum proprietate et imperfec-
tione, ut hic:*

The imperfect third mode is

done in this way: a long is
written with three, three, and
three, etc., with propriety and
with perfection and at the end
two with propriety and without
perfection, as here:

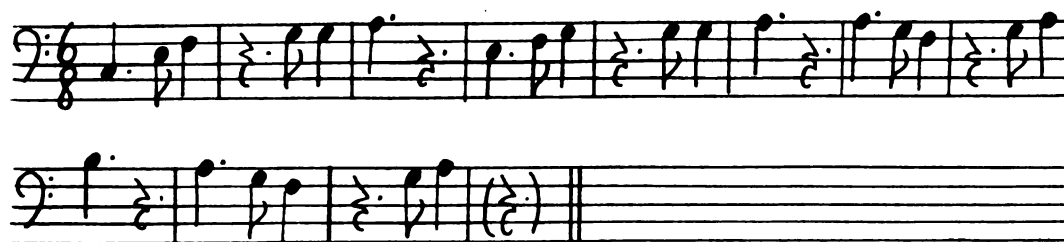
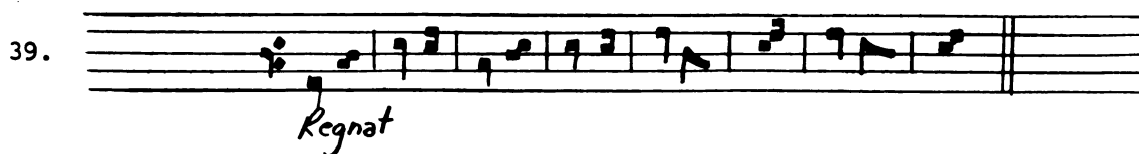
38.





*Aliter de eodem: sumatur una
longa cum duabus cum proprietate
et perfectione et longa pausa-
tione, et sic quantum placuerit,
ut hic:*

Another rule of the same
mode: a long is written with
two with propriety and perfec-
tion and a long-rest, and so on
as far as one wishes, as here:



*Aliter de eodem; Sumatur
una longa cum tribus et una brevi
in fine et debita pausatione,
etc:*

Another rule of the same
mode: a long is written with
three and at the end a breve
with the proper rest, etc.

40.

Regnat

*Quartus modus sumitur mul-
tis modis scilicet imperfectis.
Et hic primo modo sic sumatur:
tres, tres, tres, etc. cum pro-
prietate et perfectione et
longa pausatione, ut hic patet:*

The fourth mode is done in
many ways when imperfect. It is
done thus in the first way:
three, three, and three, etc.,
with propriety and perfection
and a long-rest, as is shown
here:

41.

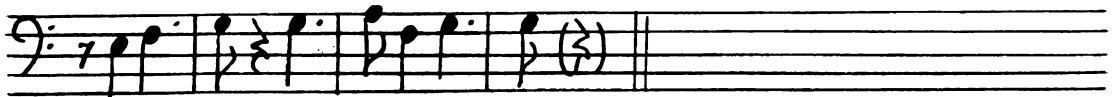
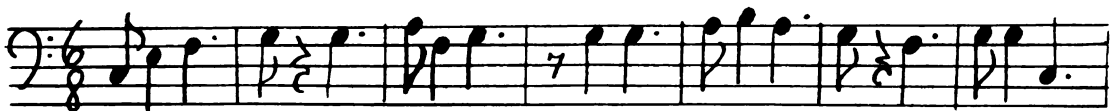
Regnat



*Aliter de eodem: tres cum
una brevi in fine et debita pau-
satione, et sic quantum placue-
rit servando in perfectione sic:*

Another rule of the same
mode: three with a breve at the
end and the proper rest, and so
on as far as one pleases in
order to preserve the perfec-
tion, thus:

42.



*Quintus modus imperfectus
hoc modo sumitur: omnes longae
in pari numero, ut hic apparet:*

The imperfect fifth mode is
done in this way: all longs in
an even number, as appears here:

43.

*Sextus modus imperfectus*

The imperfect sixth mode

*sumitur hoc modo: quatuor cum
plica et duae et duae cum plica
et proprietate, si reducatur ad
primum modum, ut hic patet:*

is done is done this way: four
with plica and two and two with
plica and propriety, if it is
reduced to the first mode, as
is shown here:

44.



*Si modus iste accipitur per
reductionem and secundum, talis
est regula: duae, duae, duae,
etc., cum proprietate et perfec-
tione et cum plica et ultima
simplici nota. Omnes breves
dicuntur, ut hic apparet:*

If this mode is used in reduction to the second mode, this is the rule: two, two, and two, etc., with propriety and perfection and with plica and the last note a simplex. All notes are said to be breves, as appears here:



Et hoc est ad propositum
omnium modorum perfectorum et
imperfectorum.

And this is the explanation
of all the perfect and imperfect
modes.

*Sequitur de quibusdam
regulis communibus*

*Unde prima regula est, quod
nunquam debet poni aliqua figura
sine proprietate, ubi potest
poni cum proprietate.*

*Alia regula est, quod nun-
quam debet poni simplex vel non
ligata, ubi potest poni ligata
vel composita.*

*Omnis ligaturarum ordinatio
debet fieri per eundem ordinem
compositarum, id est per eandem
ligaturam.*

*Omnes voces eodem sono
acceptae non possunt ligari vel
facere compositam, quia omnis
figura composita vel ligata dici-
tur ascendendo vel descendendo.
Et quaecunque sunt in eodem sono,
non dicuntur ascendendo vel de-
scendo. Ergo ex his non fit*

VI. Concerning certain
general rules

The first rule is that no
figure without propriety should
be used whenever a figure with
propriety can be used.

Another rule is that a sim-
plex or non-ligated note should
not be used whenever a ligated
or composite figure can be used.

The arrangement of all lig-
atures should be done according
to the same system of combina-
tion, that is, according to the
same kind of ligation.

Notes sung to the same
pitch cannot be ligated or made
composite, because any composite
figure or ligature is said to be
ascending or descending. What-
ever notes are on the same pitch
may not be said to be ascending

*figuratura, id est figura
ligata.*

*Omnis figura non ligata
debet reduci ad ligatam per
equipollentiam.*

*Omnis figura ultra tres suo
proprio modo reducitir ad tres.
Item tres, quarum altera est
simplex et duae ligatae, reduc-
untur ad tres ligatas per equi-
pollentiam, et hoc secundum
propriam proprietatem, quia
reducuntur ad aliquem modum
proprium.*

*Item notandum est quod
ubicunque invenitur brevium
multitudo, id est semibrevium,
semper participat cum praee-
dente, quia praecedens cum eis
non reputatur in valore, nisi
pro una tali sicut et praee-
dens:*

or descending, and therefore
ligatures, that is, ligated
figures, may not be made of
them.

Any non-ligated figure
should be reduced to a ligated
figure through the principle
of equipollentia (equivalence).

Any figure of more than
three notes is reduced to the
value of three in its proper
mode. Likewise, three notes,
of which one is single and the
other two are ligated, are re-
duced by equipollentia to the
value of three ligated notes,
and this is according to a par-
ticular propriety, because they
are reduced to a particular
mode.

Likewise, it must be noted
that wherever a great number of

breves is found, or rather semi-breves, they always share in the value of the preceding one, for only one preceding note is reckoned with them in value:



*Sequitur de pausa-
tionibus*

*Unde vivendum est quid sit
pausatio. Pausatio est divisio
soni facta in debita quantitate.
Pausationum quaedam simplex,
quaedam composita. Pausatio
simplex dicitur esse, quando
pausatur secundum quantitatem
alicujus modi vel maneriei, ut
hic:*

VII. Concerning rests

It must be understood what a rest is. A rest is a division of a sound made according to a proper quantity. Certain rests are simple, others are composite. A rest is said to be simple whenever it is done according to a particular mode, as here:

47.



Simplicium quaedam est perfecta, quaedam imperfecta. Perfecta dicitur esse illa quae non transmutat modum propter sui adventum. Imperfecta autem dicitur quae transmutat modum praecedentem. Et utraque istarum pausionum patet in exemplo supra dato. Unde regula: omnis pausatio simplex dicitur equalis penultima modi praecedentis. Si autem modus ante pausionem sit perfectus, et pausatio dicitur perfecta. Si vero sit

Some simple rests are perfect, others are imperfect. A rest is said to be perfect which does not alter the mode by its appearance. It is said to be imperfect, however, when it alters the preceding mode. Both of these types of rests appear in the example(s) given above. Whence the rule: any simple rest is said to be equal to the penultimate note of the preceding mode. If the mode before the rest is perfect, the rest

imperfectus, et pausatio erit imperfecta.

Omnis pausatio sumitur per oppositum quoad tempus secundum modum perfectum sui modi praecedentis, vel etiam secundum numerum, quia puncti perfecti modi sunt impares et pausatio est par. It hoc est a parte principii vel finis, sed secundum modum imperfectum a parte finis tantum et non principii. Si pausatio sit perfecta, et modus praecedens erit perfectus. Si imperfecta, et modus erit imperfectus.

Pausatio composita vel duplex dicitur esse quando simplex duplatur vel triplatur vel quadruplatur, etc. Compositarum quaedam perfecta, quaedam vero

is said to be perfect, and if the mode is perfect, the rest will be imperfect.

Any rest is understood as contrary to the time-value of the last note of the preceding perfect mode, or even according to the number of notes, because the number of notes in a perfect mode is uneven, and the rest makes it even. And this can be determined from the beginning or the end [of the preceding ordo], but in the case of an imperfect mode, only from the end and not the beginning. If a rest is perfect, the preceding mode will be perfect; if it is imperfect, the mode will be imperfect.

A rest is said to be composite or duplex when a simple

imperfecta, ut superius simpliciter, etc.

Omnis pausatio sumitur contrario modo sui modi praecedentis, in primo, secundo, tertio, quarto, quinto secundum numerum, et in sexto, quando reducitur ad primum vel secundum. Sed secundum suum proprium modum equalis est principio et fini, nec recipit contrarietatem, nisi secundum numerum aliquem parem vel imparem. Et notandum quod in omni perfecta pausatione debet naturaliter tractus et intervalli computari pro pausatione. In omni imperfecta sine intervallo debet computari.

rest is doubled, or tripled, or quadrupled, etc. Certain composite rests are perfect, others are imperfect, just as the simple rests above, etc.

Any rest is reckoned contrary to the preceding mode in the first, second, third or fourth, and according to number in the fifth, and in the sixth when it reduces to the first or second. But when, according to the proper mode, the beginning and end are equal it is not reckoned in a contrary manner, except according to the number of notes, whether even or uneven. And it must be noted that a perfect rest ought to be reckoned according to the length of the line, and imperfect rests

should be reckoned without consideration for that length.

*Sequitur de figuris
pausationum*

Figura pausationis est signum vel tractus significans divisionem soni factam in debita quantitate. Pausationum quaedam dicitur recta brevis, quaedam longa, quaedam finis punctorum, quaedam divisio modorum, quaedam divisio syllabarum, quaedam suspiratio.

Recta brevis est tractus respiciens latitudinem unius spatii. Recta longa est tractus continens duo spatia vel plura.

Finis punctorum dicitur esse, ubi tractus respicit latitudinem omnium linearum et

VIII. Concerning the notation of rests

The figure for a rest is a sign or line indicating a division of sound made in a proper quantity. A certain rest is called recta brevis, another longa, another finis punctorum, another divisio modorum, another divisio syllabarum, another suspiratio.

The recta brevis is a line covering the distance of one space. The recta longa is a line containing two spaces or more.

It is called finis punctorum when the line spans the

H

spatiorum.

Divisio modorum est tractus aliquo modo positus et hoc superiori parte et minor apparet recta brevi.

Divisio syllabarum dicitur idem, sed accipitur in inferiori parte.

Suspiratio dicitur esse apparens pausatio et non existens. Et hoc est supponendum, quia suspiratio potest fieri cum tractu et sine tractu, et est minor recta brevi. Et accipe hic exemplum omnium pausationum.

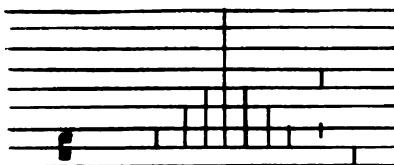
width of all the lines and spaces.

The divisio modorum is a line placed in such a way that it appears in the upper part (of the stave) and is shorter than the recta brevis.

The divisio syllabarum is the same, but it appears in the lower part.

The suspiratio appears to be a rest but is not. This must be understood, because the suspiratio can be done with or without the line, and is smaller than the recta brevis. And here is the example of all the rests:

48.



*Sequitur de conson-
antiis in eodem
tempore sive in
diversis tem-
poribus in
eodem voce*

*Consonantiarum quaedam di-
cuntur concordantiae, quaedam
discordantiae. Concordantia
dicitur esse quando duae voces
junguntur in eodem tempore, ita
quod una potest compati cum alia
secundum auditum. Discordantia
dicitur contrario modo. Con-
dordantiarum triplex est modus,
quia quaedam sunt perfectae,
quaedam imperfectae, quaedam
mediae.*

*Perfecta dicitur, quando
duae voces junguntur in eodem
tempore, ita quod una secundum
auditum non percipitur ab alia
propter concordantiam. Et dici-
tur equisonantiam, ut in unisono*

IX. Concerning consonances,
whether sounding at
the same time or at
different times in
the same voice

Certain intervals are said
to be consonances, others dis-
sonances. It is said to be a
consonance when two voices are
joined at the same time, so that
one can be in agreement with the
other according to the ear. Dis-
sonance is said to be the oppo-
site of this. There are three
types of consonances, for some
are perfect, some imperfect, and
some media.

It is called perfect when
two voices are joined at the
same time such that, according
to the ear, one is not distin-
guished from the other, because
of the consonance. It is

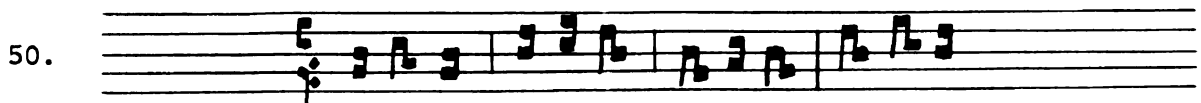
et diapason:

considered equivalent in sound,
as in the case of the unison and
octave:



*Imperfectae autem dicuntur,
quando duae voces junguntur ita,
quod una ex tot percipitur ad
alia secundum auditum et con-
cordantiam. Et sunt duae spe-
cies, scilicet ditonus et semi-
ditonus:*

They are called imperfect, how-
ever, when two voices are joined
such that one can be distin-
guished from the other according
to ear and the consonance. And
there are two types, namely the
major third and minor third:



*Mediae autem dicuntur,
quando duae voces junguntur in
eodem tempore, quae neque dicun-
tur perfectae neque imperfectae,*

They are called media when
two voices are joined at the
same time which are neither per-
fect nor imperfect, but belong

quod dicitur unisonus vel equisonantia, quod idem est. Dico quod quidquid concordat secundo g et primo. Probatio: quae equalia sunt eidem, sibi invicem sunt equalia. Sed diapente bene concordat secundum suam speciem secundo g, ergo et primo. Et non e converso, quia si illud quod videtur minus inesse inest, et illud quod magis et e converso. Et omne totum ponit suas partes et non e converso, quia omne totum majus est sua parte et non e converso. Tunc dico sic: semiditonus bene concordat secundo g, ergo et primo et non e converso per praecedentia. Et vocatur semiditonus cum diapason. Et sic de ditono, et vocatur ditonus cum diapason, et sic de aliis in infinitum ascendi

second on a second g, which is called a unison, and is the same. I maintain that whatever is consonant with the second g is consonant with the first. Demonstration: whatever things are equal are the same; they are equivalent one to the other. The fifth is consonant with the second g, and therefore also with the first. But not the converse, because that which seems to be in the lesser is in it, and also in the greater, and vice versa. Any whole contains its parts and not vice versa, for any whole is greater than its parts, and not vice versa. Thus I say this: the minor third is consonant with the second g and therefore also with the first, but not vice

potest. Et haec sufficient de propriis concordantiis.

Discordantia dicitur esse, quando duae voces junguntur in eodem tempore ita, quod secundum auditum una vox non possit compati cum alia. Discordantiarum quaedam dicuntur perfectae, quaedam imperfectae, quaedam vero mediae.

Perfectae dicuntur, quando duae voces non junguntur aliquo modo secundum compassionem vocum, ita quod secundum auditum una non possit compati cum alia. Et istae sunt tres species, scilicet semitonium, tritonus, ditonus cum diapente:

versa, as was demonstrated above.

This is called semiditonus cum diapason. And thus also with the major third, called ditonus cum diapason, and so on with the others in infinite ascent.

These remarks are sufficient concerning the particular consonances.

There is said to be a dissonance when two voices are joined at the same time such that, according to the ear, one voice cannot be in agreement with the other. Some dissonances are called perfect, some imperfect, and some media.

They are called perfect when two voices are not joined in any way according to the allowances of singing, such that one voice cannot be in agreement

with the other. And there are three types of these, namely the semitone, tritone, and major seventh:

52.



Imperfectae dicuntur, quando duae voces junguntur ita, quod secundum auditum possunt aliquo modo compati, tamen non concordant. Et sunt duae species, scilicet tonus cum diapente et semiditonus cum diapente. Et istae duae species non concordant, compatiuntur tamen, ut hic apparet:

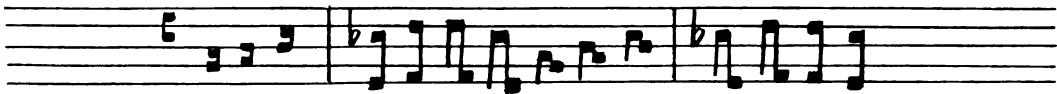
They are called imperfect when two voices are joined such that, according to the ear, they can be in agreement in some way, but are nevertheless not consonant. There are two types, namely the major sixth and minor seventh. These two types are not consonant, and yet they are in agreement, as it appears here:

53.



Mediae dicuntur, quando
duae voices junguntur ita, quod
partim conveniunt cum perfectis,
partim cum imperfectis. Et is-
tae sunt duae species, scilicet
tonus et semitonium cum diapente,
ut hic patet:

They are called media when two voices are joined such that they belong partly with the perfect and partly with the imperfect. Of these there are two types, namely the whole-tone and the minor sixth, as is shown here:



Istae species dissonantiae sunt VII, scilicet semitonium, tritonus, ditonus cum diapente, tonus cum diapente, semiditonus cum diapente, tonus et semitonium cum diapente. Et possint sumi usque in infinitum sicut et concordantiae, scilicet semitonium cum diapason, ditonus cum diapason, tritonus cum diapason,

These types of dissonances
are seven in number, namely the
semitone, tritone, major seventh,
major sixth, minor seventh, whole-
tone, and minor sixth. These can
be infinitely extended, just like
the consonances, namely the minor
ninth, major ninth, tritone plus
octave, etc., up to the double oc-
tave and as far beyond as one might
wish.

*etc. usque ad bis diapason, et
ulterius quantum placuerit:*

55.



*Sequitur de consan-
tiis et dissonantiis,
scilicet quae magis
concordant et quae
minus*

X. Concerning the conso-
nances and dissonances,
namely, which are more
consonant and which less,
and which are more dis-
sonant and which less

*Concordantiarum prima dici-
tur unisonus, qui procedit ab
equalitate immediate. Ideo
meliorem cunctis concordiam
habet. Secunda diapason, qui
sumitur in dupla proportione.
Tertia est diapente, qui sumitur
in sesquialtera proportione.
Quarta est diatessaron, qui sum-
itur in sesquitertia. Quinta
est ditonus, qui accipitur in
minori superpartiente quam*

The first of the consonan-
ces is called the unison, which
proceeds from immediate equality.
Therefore, it has better concord
than all the others. Second is
the octave, which is a 2:1 pro-
portion (dupla); third is the
fifth, which is the 3:2 propor-
tion (sesquialtera); fourth is
the fourth, which is 4:3 (ses-
quitertia); fifth is the major
third, which is closer to

semi-ditonus, ut est super septem partiens LX quartus. Sexta est semiditonius, qui sumitur in minori superpartiente allis sequentibus, ut est superquinque-partiens vigesimas septemas.

Unde regula: quae magis et appropinquiori procedunt ab equalitate, magis concordant in sono, et quae minus appropinquant equalitati, minus concordant secundum auditum. Sed istae VI species prius nominatae multum appropinquant ipsi equalitati. Aliae vero septem species sequentes multum distant ab equalitate, ergo primae VI bene concordant et dicuntur concordantiae, aliae autem non concordant, sed potius discordant, quare nominantur discordantiae.

equality than the minor third, so that it is 81:64. Sixth is the minor third, which is closer to equality than the following intervals, so that it is 32:27.

Whence the rule: the nearer they approach equality, the more they are consonant in sound, and the less consonant, and therefore they are more dissonant according to the ear. The six types named above are quite close to equality. The other seven types are quite distant from equality, and therefore the first six are consonant and are called concordances; the others, however, are not consonant, but rather are dissonant, and for this reason they are called discords.

The tritone is said to be the first of the discords, for

Discordantiarum prima dicitur tritonus, quia magis dicitur perfecta discordantia; eo quod magis discedit ab equalitate, quia accipitur super ducenta decem et septem partiens quingentas duodecimas ut LXXXXIX ad quingenta XII. Secunda est semitonium, et dicitur insuper tredecim CCXLIIIs, ut CCLVI ad CCXLIII. Tertia est ditonus cum diapente, et accipitur super ducentas tricesimas partiens CCLVI, ut CCCCLXXXVI ad CCLVI. Quarta est tonus cum diapente, et accipitur super XXIIIs partiens XXXII. Quinta est semitonium cum diapente, et accipitur super CCLXII partiens CCCCLXXXVI, ut septingenta VIII ad CCCCLXXXVI. Sexta est semiditonus cum diapente, et accipitur super VII

it is said to be the more perfect discord, because it is farthest from equality, having the proportion 729:512. Second is the semitone, with the proportion 256:243. Third is the major seventh, with the proportion 486:256 [243:128]. Fourth is the major sixth, 54:32 [27:16]. Fifth is the minor sixth, which is 364:243 [384:243 is correct]. Sixth is the minor seventh, 16:9. Seventh is the whole-tone, 9:8 (sesquioctava).

Thus the seven discords are shown, and which of them are more discordant and which less; and it should be noted that any discord before a perfect or media consonance should be equivalent to a media discord. This is especially true before

partiens nonas, ut XVI ad IX.

*Septima est tonus et sumitur in
sesquioctava proportionem, ut IX
ad octo.*

*Sic apparent VII discordantiae, et quae earum magis discordant et quae minus, et nontan-
dem quod omnis discordantia ante
perfectam concordantiam sive me-
diam equipollet mediae. Et haec
proprie sumitur ante unisonum
vel diapason. Sciendum est quod
nunquam ponitur discordantia
ante perfectam concordantiam,
nisi causa coloris musicae.*

Haec de consonantiis sufficiant.

a unison or octave. It must be understood that a discord is never placed before a perfect consonance, except for reason of the color of the music.

These remarks about consonances are sufficient.

1

*Sequitur de discantu
et de ejus speciebus*

Discantus est aliquorum diversorum cantuum consonantia secundum modum et secundum equipollentis equipollentiam. Et sunt tot species sicut et in modo a parte equipollentis qui dicitur secundus cantus, quot a parte tenoris qui dicitur primus cantus. Sunt autem sex species ejus, ut dicitur.

Et sciendum quod a parte primi tria sunt considerata, scilicet sonus ordinatio et modus. Sonus hic accipitur pro musica. Ordinatio hic sumitur numerus punctorum ante pausionem. Modus pro quantitate longarum vel brevium notarum. Similiter eadem a parte secundi considerata sunt. Praeterea

XI. Concerning discant
and its types

Discant is the sounding-together of various different voices according to mode and equipollentia of equivalent voices. There are as many types of equivalent voices, called second cantus, as there are of the tenor, called first cantus. There are six types, so it is said.

Let it be known that for the first cantus there are three things to be considered, namely sonus, ordinatio, and modus. Sonus here means the music, ordinatio the number of notes before a pause, and modus the quantity of long or short notes. Likewise, the same things must be considered on the part of

primus et secundus in tribus sunt considerata, scilicet in numero, in modo, et in concordantia. In numero, ut tot sunt puncti secundum equipollentiam a parte secundi, quot a parte primi vel e converso. In modo, ut sit longa contra longam, vel breves equipollentes longae. In concordantia, ut primus bene concordet secundo et e converso.

Unde regula: omne quod fit impari debet concordari cum omni illo quod fit in impari, si sit in primo vel secundo vel tertio modo. Sed duo puncti sumuntur hic pro uno, et aliquando unus eorum ponitur in discordantiam, propter colorem musicae, et hic primus vel secundus. Et hoc bene permittitur ab auctoribus primis et licentiatur. Hoc autem

the second cantus. Therefore the first and second cantus must be considered in three ways, namely in number, in mode, and in concordance. In number, so that there are as many notes, according to equipollentia, in the second part as in the first, or vice versa. In mode, so that there might be long set against long, or breves equivalent to the long. In concordance, so that the first might be consonant with the second and vice versa.

Whence the rule: anything which is odd ought to be brought into concordance with that which is odd, if it be in the first, second, or third mode. But two notes may be substituted for

invenitur in organo in pluribus locis et praecipue in motellis.

Et notandum quod sunt tres species discantus, aut rectus positus contra rectum, quod est prima species, aut modus per ultra mensuram ad modum per ultra mensuram, quod est secunda species, aut rectus contra per ultra mensuram, quod est tertia species.

Rectus ad rectum sumitur dupliciter, aut eodem ordine aut ordine converso. Rectus ad rectum dupliciter, aut rectus ad se ipsum aut ad reliquum.

Rectus ad se ipsum potest combinari tripliciter secundum quod triplex est modus rectus, aut primus contra primum, ut hic patet:

one, and sometimes one of them is placed in discord for the sake of the color of the music, and it may be either the first or the second. This is fully permitted and approved by the foremost authorities. It is found in many passages in organum, and especially in motets.

It should be noted that there are three types of discant: rectus placed against rectus, which is the first type, or ultra mensuram with ultra mensuram which is the second type, or rectus with ultra mensuram, which is the third type.

Rectus with rectus is done in two ways, either with the same ordo or with opposite ordines. This is also done in

two other ways, either a modus rectus with itself, or with another.

A modus rectus can be combined with itself in three ways, because there are three modi recti, either the first mode with itself, as is shown here:

56.



Aut *secundus contra secundum*,

or the second with the second,

ut *hic*:

as here:



Aut *sextus contra sextum*, ut *hic*:

or the sixth with the sixth,

as here:

58.

*Rectus contra reliquum po-
test dupliciter combinari vel
accipi, aut primus contra sextum
aut secundus contra sextum.*

*Primus contra sextum dupli-
citer, aut primus on loco primi
accipitur et sextus in loco
secundi, ut hic apparet:*

A modus rectus with another
can be combined in two ways,
either the first with the sixth,
or the second with the sixth.

The first with the sixth is
done in two ways, either the
first mode in the first voice
and the sixth in the second
voice, as it appears here:

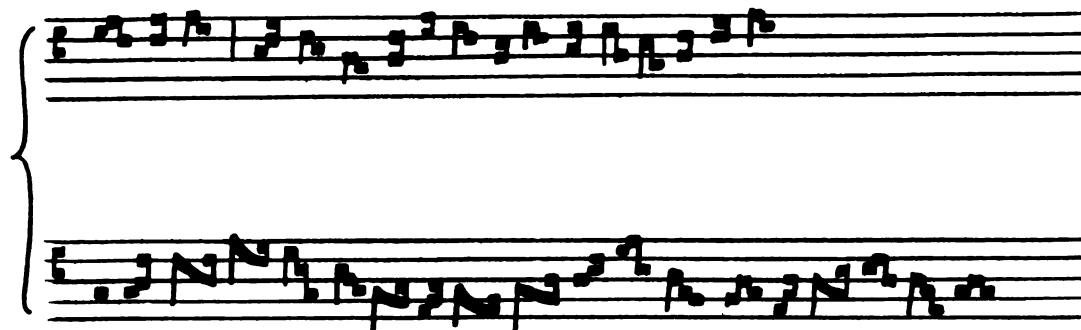
59.



*Aut e converso, scilicet sextus
in loco primi et primus in loco
secundi, ut hic:*

or vice versa, namely the sixth
mode in the first voice and the
first in the second voice, as
here:

60.





Secundus contra sextum po-
test dupliciter combinari, aut
secundus in loco primi et sextus
in loco secundi:

The second mode can be com-
 bined with the sixth in two ways,
 either the second mode in the
 first voice and the sixth in
 the second:

61.



*Aut fiet e converso, scilicet
sextus in loco primi et secun-
dus in loco secundi, ut hic
declaratur:*

or vice versa, namely the sixth
mode in the first voice and the
second in the second, as it
appears here:

62.



Rectus ad rectum ordine

converso sumitur tripliciter,

aut primus ad secundum aut

Rectus can be combined

with rectus, with opposite or-

dines, in three ways, either

11

primus ad sextum secundum ordinem secundi aut secundus ad sextum.

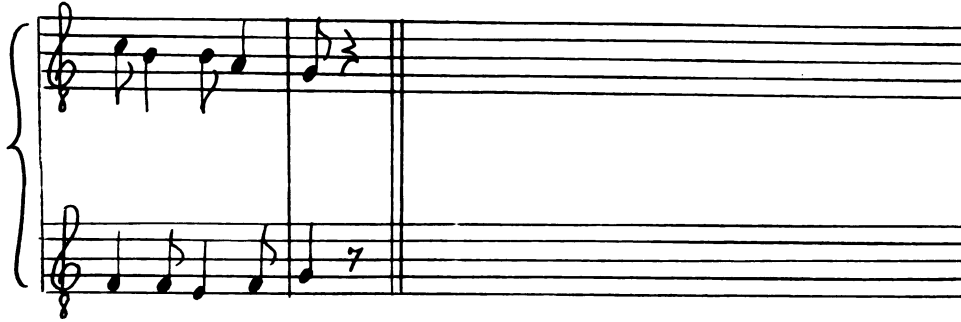
Primus secundo dupliciter, aut primus in loco primi et secundus in loco secundi, ut hic patet:

the first mode with the second, or the first with the sixth, when the latter is written according to the ordo of the second mode, or the second with the sixth.

The first mode with the second is done in two ways, either the first mode in the first voice and the second in the second, as is shown here:

63.





Aut e converso, scilicet secundus in loco primi et primus in loco secundi, ut hic:

or vice versa, namely the second mode in the first voice and the first in the second voice, as here:

64.





*Item primus contra sextum
secundum ordinem secundi sumi-
tur dupliciter, aut primus in
loco primi et sextus in loco
secundi, ut hic:*

Likewise, the first mode
is combined with the sixth, in
the ordo of the second mode, in
two ways, either the first mode
in the first voice and the sixth
in the second voice, as here:

65.





*aut e converso, scilicet sextus
in loco primi et primus in loco
secundi, ut hic apparet:*

or vice versa, namely the sixth
mode in the first voice and the
first in the second voice, as
it appears here:

66.



*Secundus sexto dupliciter,
aut secundus loco primi et sex-
tus loco secundi:*

The second mode with the
sixth in two ways, either the
second mode in the first voice
and the sixth in the second
voice:

67.



aut e converso, scilicet sextus
in loco primi et secundus in
loco secundi, ut hic:

or vice versa, namely the sixth
 mode in the first voice and the
 second in the second voice, as
 here:

121

68.



*Modus per ultra mensuram
sumitur dupliciter, aut eodem
ordine aut converso. Eodem*

The ultra mensuram modes
may be combined in two ways,
either with the same ordo or

*ordine tripliciter, aut ad se
ipsum aut ad reliquum aut ad
rectum. Ad se ipsum triplici-
ter, aut tertius ad se ipsum,
ut hic patet:*

with opposite ordines. With
the same ordo in three ways,
either a mode with itself, or
with another, or with a modus
rectus. With itself in three
ways, either the third mode
with itself, as is shown here:

69.





aut quartus ad se ipsum, ut hic:

or the fourth mode with it-
self, as here:

70.





aut quintus contra se ipsum,

or the fifth mode with itself,

ut in exemplo subsequenti:

as in the following example:

71.



Modus per ultra mensuram

*vel ad reliquum vel ad rectum
in eodem ordune sumitur duplici-
ter, aut tertius contra quintum,
aut quartus ad quintum. Tertius
ad quintum dupliciter, aut ter-
tius in loco primi et quintus
in loco secundi:*

An ultra mensuram mode com-

bined with another or with a
modus rectus with the same ordo
is done in two ways, either the
third mode with the fifth, or
the fourth with the fifth. The
third mode with the fifth in two
ways, either the third mode in
the first voice and the fifth in
the second voice:

72.



aut e converso, scilicet quin-
 tus in loco primi et tertius
 in loco secundi, ut hic:

or vice versa, namely the fifth
 mode in the first voice and the
 third in the second voice, as
 here:

73.



*Quartus contra quintum du-
pliciter, aut quartus in loco
primi et quintus in loco se-
cundi:*

The fourth mode with the
fifth in two ways, either the
fourth mode in the first voice
and the fifth in the second
voice:

74.





*aut fiet ꝑ converso, scilicet
 quintus in loco primi et quar-
 tus in loco secundi, ut hic
 apparet:*

or it may be done conversely,
 namely the fifth mode in the
 first voice and the fourth in
 the second voice, as it appears
 here:

75.



Modus per ultra mensuram

ad modum per ultra mensuram ordine converso sumitur dupliciter vel etiam tripliciter, aut tertius quarto aut tertius quinto aut quartus quinto. Tertius quarto potest dupliciter combinari, aut tertius in loco primi et quartus in loco secundi, ut in hoc exemplo apparet:

A mode ultra mensuram with

another ultra mensuram with opposite ordines is done in two ways or even three, either the third mode with the fourth, or the third with the fifth, or the fourth with the fifth. The third mode can be combined with the fourth in two ways, either the third mode is placed in the first voice and the fourth in the second voice, as it appears in this example:

76.





Aut e converso, scilicet quartus in loco primi et tertius in loco secundi, ut hic:

or vice versa, namely the fourth mode in the first voice and the third in the second voice, as here:

77.





*Tertius quinto dupliciter,
aut tertius in loco primi et
quintus in loco secundi:*

The third mode with the
fifth in two ways, either the
third mode in the first voice
and the fifth in the second
voice:

78.



*Aut e converso, scilicet quin-
tus in loco primi et tertius
in loco secundi, ut hic:*

or vice versa, namely the fifth
mode in the first voice and the
third in the second voice, as
here:

79.



Quartus contra quintum
potest dupliciter combinari,
aut quartus in loco primi

The fourth mode can be
 combined with the fifth in two
 ways, either the fourth mode

et quintus in loco secundi,

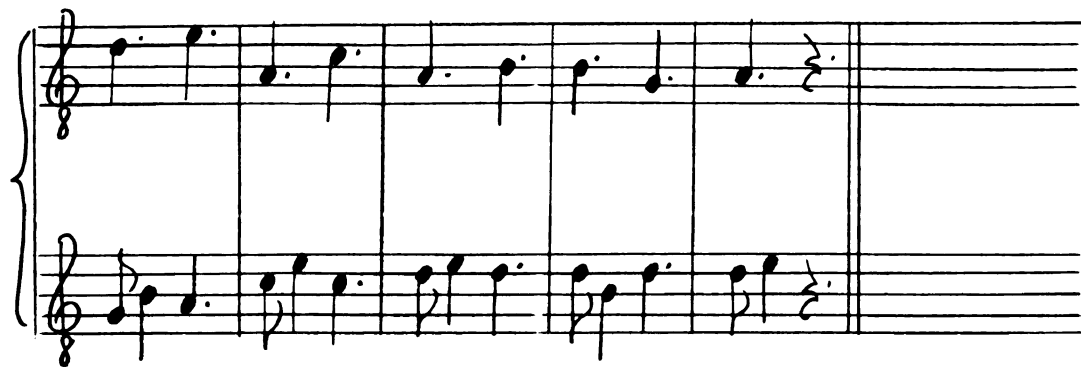
in the first voice and the

ut hic:

fifth in the second voice,

as here:

80.



Aut e converso, scilicet quintus

or vice versa, namely the fifth

in loco primi et quartus in

mode in the first voice and the

loco secundi, ut hic:

fourth in the second voice, as

here:

81.

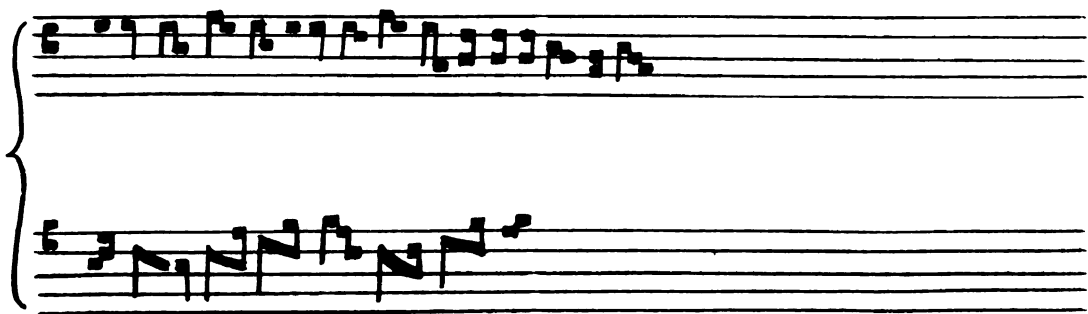




*Aut fiet e converso, scilicet
quartus in loco primi et secun-
dus in loco secundi, ut hic:*

or it may be done conversely,
namely the fourth mode in the
first voice and the second in
the second voice, as here:

83.





*Sextus quarto dupliciter,
aut sextus loco primi et quar-
tus loco secundi:*

The sixth mode with the
fourth in two ways, either the
sixth mode in the first voice
and the fourth in the second
voice:

84.





Aut fiet e converso, scilicet
quartus in loco primi et sextus
in loco secundi:

or it may be done conversely,
 namely the fourth mode in the
 first voice and the sixth in
 the second voice:

85.



Impar contra imparem sumitur dupliciter, aut primus tertio, in tantum quod primus equipollet debito ordine sexto, aut sextus tertio mediante secundo. Et ita sumitur primus tertio, sed non proprie, sed per reductionem, aut primus quinto. Primus tertio dupliciter, aut primus in loco primi et tertius in loco secundi, ut patet in exemplo subsequenti:

Odd against odd is done in two ways, either the first mode with the third, because the first mode is equivalent to the proper ordo of the sixth mode, or the sixth mode with the third, in reduction to the second mode. And thus the first mode is placed with the third, but not properly, but by reduction, or the first mode with the fifth. The first mode with the third in two ways, either the first mode in the first voice and the third in the second voice, as is shown in the following example:

86.

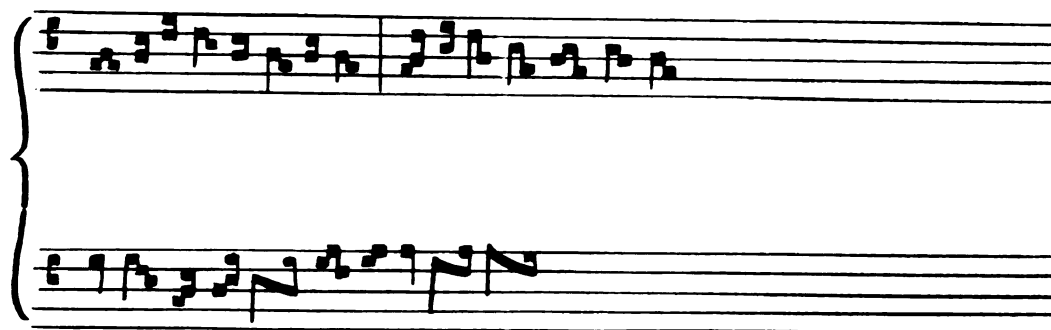




*Aut fiet e converso, scilicet
tertius in loco primi et primus
in loco secundi, ut hic patet:*

or it may be done conversely,
namely the third mode in the
first voice and the first in
the second voice, as is shown
here:

87.



*Primus quinto dupliciter,
aut primus loco primi et quin-
tus loco secundi:*

The first mode with the
fifth in two ways, either the
first mode in the first voice
and the fifth in the second
voice:

88.



Aut fiet e converso, scilicet
quintus in loco primi et primus
in loco secundi, ut hic:

or it may be done conversely,
 namely the fifth mode in the
 first voice and the first in
 the second voice, as here:

89.





*Tertius quinto dupliciter,
aut tertius in loco primi et
quintus in loco secundi, ut hic:*

The third mode with the
fifth in two ways, either the
third mode in the first voice
and the fifth in the second
voice, as here:



*Aut fiet e converso, scilicet
quintus in loco primi et ter-
tius in loco secundi, ut hic
apparet:*

or it may be done conversely,
namely the fifth mode in the
first voice and the third in
the second voice, as it
appears here:



*Par contra imparem sumitur
triplex, aut secundus contra
aliquem aut quartus contra ali-
quem aut sextus contra aliquem.
Secundus contra aliquem est du-
plex, aut secundus ad tertium
aut idem secundus ad quintum.
Secundus ad tertium potest du-
pliciter combinari, aut secun-
dus in loco primi et tertius*

Even is placed against odd
in three ways, either the
second mode with another, the
fourth with another, or the
sixth with another. The second
mode with another is in two
ways, either the second mode
with the third, or the second
with the fifth. The second
mode can be combined with the

in loco secundi, ut hic

patet:

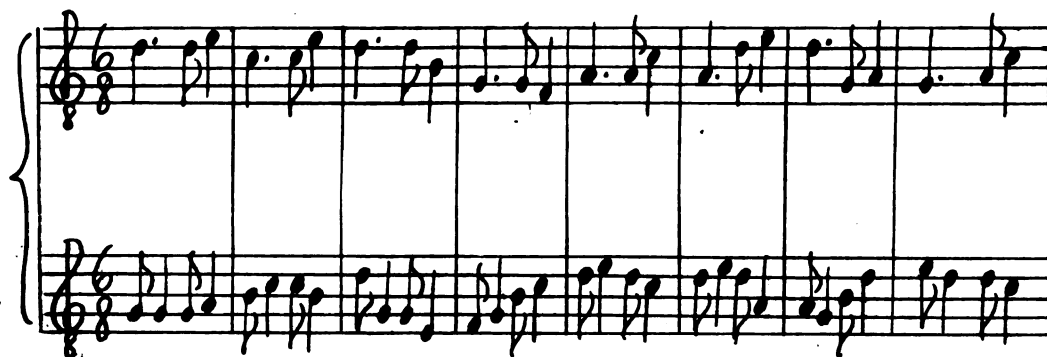
third in two ways, either the

second mode in the first voice

and the third in the second

voice, as is shown here:

92.



Aut fiet e converso, silicet
tertius in loco primi et se-
cundus in loci secundi, ut
hic:

or it may be done conversely,
 namely the third mode in the
 first voice and the second in
 the second voice, as here:



*Secundus ad quintum potest
accipi dupliciter, aut secundus
loco primi et quintus loco se-
cundi, ut hic patet:*

The second mode can be taken
with the fifth in two ways:
either the second mode in the
first voice and the fifth in the
second voice, as is shown here:

94



Aut e converso, scilicet quin-
 tus in loco primi et secundus
 in loco secundi, ut hic
 patet:

or vice versa, namely the fifth
 mode in the first voice and the
 second in the second voice, as
 is shown here:

95.



Quartus contra aliquem potest combinari tripliciter, aut quartus contra primum aut contra tertium aut contra quintum. Sed de istis nullum exemplum traditur, eo quod eorum combinatio raro alicubi reperitur.

Sextus contra aliquem potest combinari tripliciter, aut sextus contra primum aut contra tertium aut contra quintum. Sextus contra primum dupliciter, aut sextus loco primi et primus loco secundi, aut e converso. Sed quia horum exempla superius dantur, idcirco quo ad praesens relinquuntur.

Sextus ad tertium dupliciter, aut sextus in loco primi et tertius loco secundi, ut hic:

The fourth mode can be combined with another in three ways, either with the first, or with the third, or with the sixth. But of these no example is given, because the combination of them is only rarely found.

The sixth mode can be combined with another in three ways, either the sixth mode with the first, or with the third, or with the fifth. The sixth mode with the first in two ways, either the sixth mode in the first voice and the first in the second voice, or vice versa. But since examples of these are given above, they are omitted here.

The sixth mode with the third in two ways, either the sixth mode in the first voice and the third in the second voice, as here:

96.



Aut fiet e converso, scilicet
tertius in loco primi et sextus
in loco secundi, ut patet in
exemplo subsequenti:

or it may be done conversely,
 namely the third mode in the
 first voice and the sixth in

the second voice, as is shown
in the following example:

97.



Sextus contra quintum dupliciter, aut sextus in loco primi et quintus in loco secundi, ut hic:

The sixth mode with the fifth in two ways, either the sixth mode in the first voice and the fifth in the second voice, as here:

98.

The musical notation for example 98 consists of two staves. The top staff is a single melodic line with a brace on the left. The bottom staff is a single melodic line with a brace on the left. Both staves show a sequence of notes in a specific mode.

Aut fiet e converso, scilicet quintus in loco primi et sextus in loco secundi, ut hic:

or it may be done conversely, namely the fifth mode in the first voice and the sixth in the second voice, as here:



Et sic de singulis ad invicem, secundum equipollentiam aliquorum modorum.

Expliciunt omnes combinationes modorum, quantum sufficit ad discantum.

Dicto de discantu dicendum est de copula quae multum valet ad discantum, quia discantus nunquam perfecte scitur nisi

And thus with each in turn according to the equipollentia of the various modes.

All combinations of the modes are shown, as many as are sufficient for discant.

Discant having been discussed, the copula, which is very important in discant, must be discussed, because discant is never understood

mediante copula. Unde copula esse id quod est inter discantum et organum. Alio modo dicitur copula: copula est id quod proferter recto modo equipollente unisono. Alio modo dicitur: copula est id ubicumque fit multitudo punctorum. Punctus, ut hic sumitur, est ubicumque fit multitudo tractuum, et ista pars dividitur in duo equalia. Unde pars prima dicitur antecedens, secunda vero consequens, et utraque pars continet multitudinem tractuum. Unde tractus fit ubicumque multitudo specierum univoce, ut unisoni aut soni secundum numerum ordinatum ordine debito. Et haec sufficient ad discantum.

Organum dicitur multipliciter, generaliter et specialiter. De organo generaliter dictum est superius, nunc autem dicendum

perfectly except through knowledge of the copula. Copula is said to be that which is between discant and organum. The copula is described in another way: copula is that which proceeds to a unison by means of equipollentia with rectus modus. It is described in another way: there is a copula wherever a great number of puncti are written. A punctus, as the term is used here, is wherever there is a great number of tractus. The first part is called the antecedent, the second part the consequent, and each part contains a great number of species, such as unisons or whole-tones, in one voice, according to an arranged number in proper order. And these remarks suffice for discant.

est de ipso in speciali. Organum in speciali dicitur dupliciter, aut per se aut cum alio. Organum per se dicitur id esse quidquid profertur secundum aliquem modum rectum aut non rectum. Rectus modus sumitur hic ille per quem discantus profertur. Non rectus dicitur ad differentiam alicujus rectae, quae longae et breves rectae sumuntur debito modo primo, et principaliter. In non recto vero sumitur longa et brevis in primo modo, sed ex contingenti. Organum autem non rectum dicitur quidquid profertur per non rectam mensuram, ut dictum est superius. Et ejus equipollentia tantum se tenet in unisono usque ad finem alicujus puncti, ut secum convenit secundum aliquam concordantiam.

Organum is spoken of in many ways, both generally and specifically. Organum taken generally was discussed above, and now it must be discussed specifically. Organum taken specifically is described in two ways, either per se or cum alio. Organum per se is said to be that which proceeds according to a certain modus rectus or non rectus. Rectus modus here means that by which discant proceeds; non rectus is described in distinction from modus rectus, especially where correct longs and breves are taken as in the first mode. In non rectus the long and breve are taken as in the first mode, but coincidentally. And so organum is said to be non rectum when it proceeds by non recta measurement, as was said

*Et hoc sufficit dici organo
quantum ad discantum.*

*Longae et breves in organo
tali modo dignoscuntur, scilicet
per consonantiam, per figuram,
et per paenultimam. Unde
regula: omne id quod accidit
in aliquo secundum virtutem
consonantiarum, dicitur longum.*

*Alia regula: quicquid
figuratur longum secundum organa
ante pausationem vel loco
consonantiae, dicitur longum.*

*Alia regula: quicquid
accipitur ante longam pausationem
vel ante perfectam concordantiam,
dicitur esse longum.*

above. And only equipollentia
holds it together until the end
of any punctus, so that it agrees
with the rules of consonance.
And this is sufficient for organum,
just as for discant.

In organum the longs and
breves are distinguished in this
way, namely by consonance, by the
figures (manner of notation), and
by the rule of the penultimate.
Whence the rule: whatever occurs
by virtue of consonance is said
to be long.

Another rule: whatever is
written as a long during the organum
and before a rest is said
to be long.

Another rule: whatever occurs
before a long-rest or before a
perfect consonance is said to be
long.

*Sequitur de tripli-
cibus*

Triplum est commixtio trium sonorum secundum habitudinem VI concordantiarum, scilicet unisonus, diapason, etc., et hoc in eodem tempore. Et ista est communis descriptio. Specialiter autem sic describitur: triplum est cantus proportionatus aliquis conveniens et concordans cum discantu. Et sic est tertius cantus adjunctus duobus.

Unde prima regula: triplum specialiter sumptum debet ex remoto concordare primo et secundo cantui, nisi fuerit concordantia insimul per sonum reductum, quod sibi equipollet. Proprium est diapason et infra, remotum est triplex diapason et infra usque

XII. Concerning organum triplum

Triplum is the joining of three voices according to the placement of the six consonances, namely the unison, octave, etc., and this is at the same time. This is the general description. Specifically, however, it is described thus: the triplum is a voice proportionally fitted to and consonant with discant. Thus a third voice is added to two.

Whence the first rule: understood specifically, the triplum should be placed so as to be consonant separately with the first and second voices, unless there be a concordance with both at the same time because they are equivalent to each other. The octave or less is called proprium

ad diapason, remotissimum est triplex diapason et infra usque ad duplex diapason. Diapason dicitur dupla, diapente cum diapason dicitur tripla, bis diapason dicitur quadrupla, diapente cum bis diapason sextupla, triplex diapason, quod vix reperitur nisi instrumentis a flatu, dicitur octupla. Et ista probatur maxime per magnam figuram musicalem.

Multa in praedicti dimisimus, quae partim continentur in triplicibus nunc praepositis et partim in quadruplicibus postpositis. Primum est de errore, secundum de eorundem colore, tertium est de positione brevium in propriis locis, quartum est de nobilitate soni, quintum est dissonantia, ut sit concordantia,

(proper), the double octave down to the octave is called remotum, and the triple octave down to the double octave is called remotissimum. The octave is used for dupla, the twelfth for tripla, the double octave for quadrupla, the double octave and fifth for sextupla, the triple octave, which is hardly ever found except for wind instruments, for octupla. And this is shown chiefly by large musical figures.

We have spoken of many things, partly involved with the tripla now under consideration, and partly with the quadrupla to be dealt with below. First we consider errors in the triplum; second, the color of that same voice; third, the proper placement of breves; fourth, the nobility of

sextum est de copulatione soni.

Error tertii soni, quando ordinamus sonos male convenientes, quod per quatuor regulas cognoscimus, quarum prima talis est: quotiens ascendimus per tonos integros et postea jungendo semitonium in tonum, convertitur et ultimus tonus in semitonium. Quod fit mediante synemmenon, ut patet in exemplo:

the music; fifth, dissonance, so
that there might be concordance;
sixth the copula.

There is an error in the triplum when we arrange the notes so that they fit together badly. We understand this by means of four rules, of which the first is: whenever we ascend by whole-tones a semitone must be added on afterward, so that the last whole-tone is changed to a semitone. This is done through synemmenon, as is shown in the example:

100.



*similiter per synemmenon
fiet subtracto toni vel
soni, ut hic:*

ascend a whole-tone, here like-
wise, through synemmenon, there
is a subtraction of a semitone,
as here:

101.



Alia regula de eodem:

Another rule concerning the

*quotiens ascendimus et iterum
descendimus, ascensus largiatur.
Et hoc fit aliquotiens per
synemmenon, aliquotiens autem
non, ut hic:*

same: whenever we ascend and
then descend, let the ascent be
broadened. This is sometimes
done through synemmenon, and
sometimes not, as here:

102.



*Quarta regula est: contin-
uatio sonorum, si post semitonium
fit vel tonus, et conveniens fit
super quietam, penultima*

The fourth rule is: If a
continuation of a voice is made
after a semitone or whole-tone,
and is made so as to fall near

*proportio minuitur, sive fuerit
semitonium vel tonus:*

*a rest, the penultimate propor-
tion is made smaller, whether it
be a semitone or a whole-tone:*

103.



*Istae regulae tenentur in
cantu plano, sed aliquotiens re-
stringuntur in discantu propter
habitudinem concordantiae ipsius
discantus, quia subtilis debet
cantum suum conformare respectu
superioris cantus vel inclinare
vel acuere, ut melius conforme-
tur concordantiae, in quantum
poterit supradictas regulas
observando.*

*Color est pulchritudo soni
vel objectum auditus, per quod
auditus suscipit placentiam.
Et fit multis modis, aut sono*

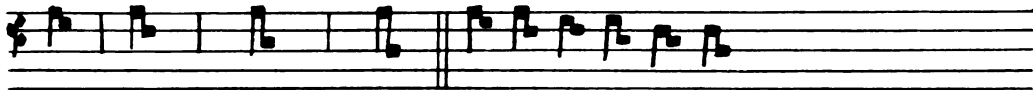
*These rules are observed in
plainchant, but are often limited
in discant because of the place-
ment of the consonances, because
a good cantus ought to conform
with respect to the upper voice,
whether to be lowered or raised,
so that it might be more fitting
in consonance, as much as is pos-
sible within the observation of
the above rules.*

Color is the beauty of the
melody or the object of the ear,
through which the ear experiences
pleasure. This is done in many

*ordinato aut in florificatione
soni aut in repetitione ejusdem
vocis vel diversae.*

*In sono ordinato fit du-
plex, aut respectu unius secun-
dum proportionem infra diapente,
ut hic:*

104.



*Aut respectu plurium infra diap-
ason proprie, ut patet in exem-
plo, et per abundantiam usque
ad triplum, et tali ordinatione
utimur in instrumentis triplici-
bus et quadruplicibus.*

*In florificatione vocis fit
color, ut commixtio in conductis
simplicibus. Et fit semper ista
commixtio in sonis conjunctis et*

ways: either by patterned sounds,
or by the ornamentation of sounds,
or by repetition in the same voice
or in different voices.

Patterned sounds are made in
two ways, either with respect to
one note according to the propor-
tion of the lower fifth, as here:

or with respect to several notes
properly at the lower octave, as
in the example, especially in the
triplum, and we use such pattern-
ing in instrumental tripla and
quadrupla.

Color is made by the ornamen-
tation of the voice, as in the
melismata of simple conductus.
And this kind of melisma is



Positio brevium in primo

*modo est, quod ipsa brevis debet
sic poni in concordantia sive
discordantia, ut habeat ordina-
tionem suam cum sono anteposito
et postposito, et per viam ali-
cujus coloris, sive fuerit in
eadem voce sive in diversis.
Et sic intellige de partibus*

The placement of breves in

the first mode is this, that it
should be placed in consonance
or dissonance, so that it might
have a proper arrangement with
the preceding and following
notes according to some color,
whether in the same voice or
in different voices. And this

vocis in aliis modis.

Nobilitatio soni est augmentatio ejusdem vel diminutio per modum superbiae, in augmentatione, ut melius videatur, in grossitudine, ut bene audiatur, in fictione, ut melius appetatur, in dimissione, ut spiritus recurventur.

Dissonantia ut sit concordantia est inter duplex diapason et diapente et diapason una dissonantia vel duplex bene concordat, ut hic:

is also to be understood for the other modes.

The nobility of the music is its augmentation or diminution according to the demands of excellence; in augmentation, so that it is better seen, in greater volume, so that it is better heard, in construction, so that it is better appreciated, and in performance, so that the spirit is moved.

A dissonance, if it is to sound well, may be placed between two octaves or between a fifth and an octave, and one or two dissonances will sound well, as here:

107.





*Copula duplex est, una quae
est medium inter organum purum
et discantum, altera est quae
fit in abscissione sonorum aut
sumendo tempus post tempus aut
tempora post tempora. Et iste
modus sumitur flaiolis. Et
aliqui vocant hoquetum modum
istum.*

The copula is understood in
two ways: first, that which is
between organum purum and discant,
and the other, that which is pro-
duced by the cutting off of the
sound, or taking a rest after a
single note or several rests
after several notes. This de-
vice is what is meant by flaio-
lis. Others call this device
hocket.

*Sequitur de quadru-
plicibus*

*Sonis praepositis at prae-
positis at praeparatis quartus
superveniens in debita quantitate
ordinatus, et isto modo quadrup-
lum nuncupatur. Et sciendum
quod duplex est via quadrupli,
una est secundum viam propriam,
alia secundum viam communem.
Et ad hoc bene percipiendum
talis est noster processus.*

*Proprius situs primi dici-
tur diapason et infra, proprius
situs secundi est in duplici
diapason et infra, proprius
situs tertii est in duplici
diapason et infra cum commix-
tione VI concordantiarum sive
in simplicitate sive in compos-
itione ad utrumque.*

XIII. Concerning organum
quadruplum

When (three) voices have been
set down and prepared a fourth is
arranged above them in proper
quantities, and this is called
the quadruplum. Let it be known
that there are two manners for
quadrupla, one is according to
the proper way, and the other
according to the common way.
And thus it is to be understood
that such is our system.

The proper range of the
first voice is the octave and
below; the proper range of the
second is the double octave and
below; the proper range of the
third voice is also the double
octave and below, with the ob-
servance of the six consonances

Proprius situs quadrupli in triplici diapason et infra, quod vix in opere ponitur, nisi in instrumentis, ita quod longae in primo modo concordant cum omnibus praedictis, scilicet tribus cantibus praepositis, sive in concordantia simplici sive composita. Sed proprietas praedicta vix tenetur in aliquibus, quod patet in quadruplicibus Magistri Perrotini per totum in principio magni voluminis. Quae quadrupla optima reperiuntur et proportionata et in colore conservata, ut manifeste ibidem patet.

Sed quadruplum communiter sumptum, de quo ad praesens intendimus, modum tripli in altitudine et gravitate recepit, quamvis aliquantum excedat in

with one or both of the other voices; the proper range of the fourth voice is the triple octave and below, and this is difficult to perform, unless it is done by instruments; it is done such that the longs of the first mode are consonant with all the others, namely the three voices already written, whether in consonance with one or all together. But this propriety of composition is achieved only with difficulty, as is clear in the quadrupla of Magister Perrotinus, all in the beginning of his great book. These quadrupla are found to be very well-proportioned and restrained with respect to color, as is manifestly plain.

But quadruplum understood commonly, about which we now

aliquibus locis. Et sic tale quadruplum cum tribus sibi associatis ab aliquibus duplex cantus nuncupatur, quia duo invicem nunc cum uno nunc cum reliquo audientibus, tanquam esset duplex discantus. Percipitur tamen instrumentis maxime completis.

Situs proprius prima infra diapason, ut superius. Situs vero secundi est infra duplex diapason et simplex diapason. Tertius in triplici usque in duplici. Quartus in quadruplici et infra usque in triplici, et tamen in adjutorio. Si enim aliquis cantus transcendat per acutum et grave suum diapason respectu soni infimi, unus intrahat alium per viam accommodationis secundum quod

speak, is done in the manner of the triplum in height and depth, although it exceeds it in some places. And so the quadruplum, when three voices are added to it, is called by some the duplex cantus, because when two voices are heard now with one voice, now with another, it is as if it were two-voice discant. However, this is understood especially when performed with instruments.

The proper range of the first voice is the octave and below, as above; that of the second voice, the octave to the double octave, that of the third voice in tripla the double octave to triple octave; that of the fourth voice in quadrupla the triple octave to quadruple octave, and so on. If any voice

necesse fuerit. Sed quia vox humana ad talia non ascendit, ideo quiescamus infra duplex diapason, si possibilitas sit in voce, et procedamus in praedicta quadrupla per ejus regulas.

Unde prima regula est, quod si sit de primo modo, ponendae sunt omnes longae in concordantia cum omnibus longis trium subpositorum ut diximus suo modo.

Alia regula: si ascendis cum uno vel descendis una proportionem, vel duas ascende postea vel descende cum reliquo, et sic mutando descensionem vel ascensionem nunc cum uno nunc cum reliquo, donec veniat ad finem. Et eodem modo intellige de omnibus aliis.

goes beyond its proper octave, whether above or below, with respect to the bottom voice, then one voice enters the range of another by the way of accommodation, according to what may be necessary. But because the human voice cannot ascend to such a range, it should remain beneath the double octave if possible, and proceed according to the above-stated rules of quadrupla.

The first rule is, if it be in the first mode, all longs should be placed in consonance with the longs of the three voices written below, as we have said, in their proper manner.

Another rule: if you ascend or descend with one voice, afterward ascend with two or descend

*Tertia regula est: pon-
colores loco sonorum proportion-
aliter ignotorum, et quanto
magis colores, tanto sonus erit
magis notus. Et si fuerit no-
tus, erit placens. Item loco
coloris in regione cujuslibet
pone cantilenam notam copulam
vel punctum vel descensum vel
ascensum alicujus instrumenti
vel clausam lay.*

*Haec positio Johannis
dicti de Garlandia, de musica
mensurabili.*

with all the rest, and thus the
ascent and descent must be var-
ied now with one and now with
the rest, until the end is
reached. And in this manner
understand the arrangement of
all the voices.

The third rule is: place
colores in a place of relatively
plain sounds, and the greater
the color, the more memorable
will be the sound. And if it
is memorable, it will be pleasing.
Likewise, in the place of color
in any passage, place a copula
or punctum or the ascent or de-
scent of some instrument, or a
clausam lay.

This is the treatise of
Johannes, surnamed de Garlandia,
on mensural music.

COMMENTARY

Chapter I

Garlandia here states that he has previously written a treatise on plainchant and the ecclesiastical modes (species). This is apparently the De plana musica, one version of which exists along with the shorter version of the present treatise in the Vatican manuscript (see Introduction). It includes sections on hexachords, mutation of hexachords, and modes, along with some information on the notation of plainchant.

The concept of common and proper modes requires some explanation. Common mode is non-modal rhythm, that which does not utilize definite repeated patterns. This generally applies to syllabic music, particularly the motet and conductus, written in single (non-ligated) notes, and it may also have some reference to earlier organum duplum (organum purum), which was relatively rhythmically free. Proper mode, on the other hand, refers to the more recent organum, written in patterns of ligatures (that is, groups of two or more connected notes) which assumed rhythmic significance more according to their context than their physical appearance.

All the treatises of the time are essentially in agreement concerning the six modes except for that of Magister Lambertus (Pseudo-Aristotle, Tractatus de Musica, Coussemaker, I, pp. 251-281), whose system consisted of nine modes. Though this treatise is somewhat obscure and confused, the modes are as follows:

I. 

II. 

III. 

IV. 

V. 

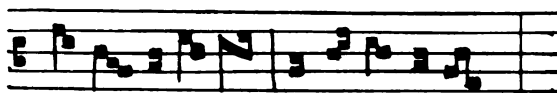
VI. 

VII. 

VIII. 

IX. 

The explanations of these patterns are fairly clear. Lambertus gives an example of each, and then the durational value of each note. For example, the passage on the fourth note is as follows (Coussemaker, I, p. 274):




The first note of the binaria extends one tempus, the second two tempora; the first note of the ternaria extends one tempus, the second, two tempora, the third, three tempora, according to the ordering of the fourth mode.

It can be seen that Lambertus' third mode is Garlandia's (and everyone else's) fourth, whereas the normal third mode is present only as a variant: here, Mode IV which could also be viewed as little more than a variant of mode II. Likewise, the normal form of the sixth mode is only approximated by Lambertus' ninth. The sixth, seventh, and eighth are problematical, but may be considered variants of modes I and II. Though it may seem unlikely, the binary interpretation of modes VII and VIII here cannot be rejected out of hand (see below).

The treatise of Walter Odington gives an example of a mode consisting of long, breve, breve, long (Jay Huff, trans., Walter Odington, De speculatione musicae, Part VI, 1973, p. 14); this is explained as a combination of modes I and II, a variant of one or the other of them.

Many such variants existed from time to time. Ernest H. Sanders ("Duple Rhythm and Alternate Third Mode in the Thirteenth Century," Journal of the American Musicological Society, XV, 1972, pp. 249-291) sees evidence that the third mode, especially when used in combination with the first, sometimes took the pattern [♩ . ♩ ♩]. Though not explicitly supported by the theorists, this interpretation

seems to have been necessitated by the demands of consonance and dissonance in certain instances. Such a rhythm was not otherwise possible to notate as a modal pattern in Garlandia's system, except for brief appearances in mode I (see below, extensio modi). Of the theorists, Anonymous IV is the most helpful regarding irregular modal patterns (De mensuris et discantu, Chapter VII, Coussemaker, pp. 361-364). Sanders also discusses evidence that binary rhythm was occasionally used (mode III = ) , at least in England.

The terms in plenitudine vocis, sub voce cassa, and sub voce amissa are obscure. In the Vatican manuscript the terms per vocem rectam, per vocem cassam, and per vocem omissam occur in the course of the explanation of the concept of tempus, but are not explained clearly. The passage is as follows:

The recta brevis is that which contains one tempus.

Thus it is possible to explain how one tempus is understood. One tempus, as this is understood, is that in which one recta brevis should be placed. Whence the recta brevis should be placed into a time-value such that it is indivisible; but this tempus is done in three ways.

Sometimes per vocem rectam, sometimes per vocem cassam, sometimes per vocem omissam. The recta brevis is placed in the first tempus, that is to say, per vocem rectam. It should be known, moreover, that two such breves which are thus written make up one recta longa.

On the basis of this confusing passage, perhaps these terms can be clarified. If per vocem rectam means that situation in which







a single tempus is represented by a single breve, then it may be that per vocem cassam (cassam = empty or hollow) indicates that a tempus falls on a later part of a note-value, e.g., the second half of a longa recta. It would then follow that per vocem omisam refers to a tempus occurring at a rest. This seems to imply some sort of concept that the tempus was like a continuous underlying pulse, something more than a hypothetical standard against which the durations were measured.

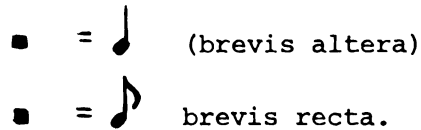
William Waite, however, takes the opposite view. Though the tempus was a time-unit against which note-values were measured, it probably should not be construed in the modern sense of a "beat." Waite (The Rhythm of Twelfth-Century Polyphony, 1954, pp. 31-32) has explained that the modes apparently had some connection with the metrical feet of classical verse, though there is no hint of that here. There had been a practice of indicating these feet with hand motions; thus, each foot included one upward motion and one downward motion. Any metrical foot contained two motions or pulses; but the modal patterns contained from three to six tempora, and so the tempus could not be conceived of as an underlying beat, since the relationship of tempus to the hand-motions varied from mode to mode. For example, mode I would have a downward motion of two tempora and an upward motion of one tempus, whereas mode III would have equal motions of three tempora.

Garlandia's definition of tempus as the smallest possible time-unit must also be qualified, because it was possible to divide the tempus still further by the use of semibreves.

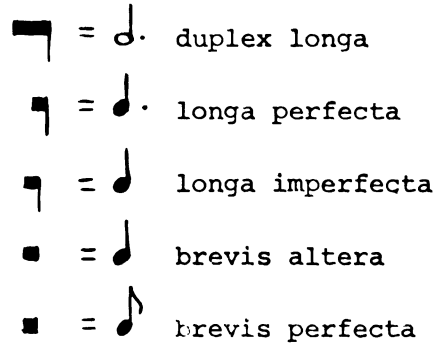
Longa recta translates literally as "correct long." Though the long could have two, three, or more tempora, that of two tempora was considered by Garlandia to be the normal type. Likewise, the breve was considered "correct" when it contained one tempus, and "altered" (though this term is not used here) when it contained two tempora. The term ultra mensuram is more commonly encountered in contemporary treatises than is "oblique." Indeed, the latter is seldom used even in the latter parts of this treatise. Longs of three or more tempora and semibreves of less than one tempus were considered "beyond measurement." The treatises of Odington and Lambertus reverse Garlandia's concept, so that the long of two tempora was termed "imperfect," as distinct from the "perfect" long of three tempora. This is the terminology which survives in the Franconian system and afterward.

Garlandia:

	=		duplex longa
	=		longa ultra mensuram
	=		longa recta



Odington and Lambertus:



It should also be noted that other treatises, such as Walter Odington's, restrict the value of the duplex longa to two longae rectae; that is, six tempora. But Garlandia was apparently aware of the many instances in the rhythmically free organa dupla of the Notre Dame school in which strictly measured note-values were interspersed with those which were somewhat indeterminate. In such cases, the exact duration of a duplex longa might have to be determined by alignment or by the syllabification of the text.

The long "which bends itself toward sharpness or gravity" is obviously the plica longa, in which the stem on the right side of the note indicates an unwritten pitch, usually a second from the written note, in the direction of the stem (see below).

The next passage, after the explanation of the concept of perfect and imperfect modes, is quite confused. The three rules

rules for determining the length of non-ligated notes also appear in the Vatican manuscript, but here they are inserted in the middle of an unrelated paragraph. The final five paragraphs of this chapter are probably a spurious addition. It is very likely that the copyist adapted this material from Anonymous IV, where the example showing the process of converting a chant fragment into a modal melody appears verbatim. Also, the term ordo, meaning the single pattern of a mode, is used extensively in Anonymous IV, but only seldom in this treatise. Most references to the term are in Chapter II, where it refers to the rhythmic position of longs rather than to the modal patterns themselves. The concept of "reduction" does appear elsewhere in the Positio, but it also figures in the writings of other theorists. This passage is absent from the Vatican manuscript.

In the final two paragraphs it is stated that the rests in the fifth and sixth modes vary in value. This is problematic, in that specific examples are not given. In the illustrations later on in the treatise, the rest in mode V appears always to be long, that is, three tempora. But, as will be seen, the example of mode V given in chapter IV is unclear; juxtaposition with another voice clears up the confusion in most cases. The situation is more confused with respect to the sixth mode. The proper procedure is clear when this mode is used with mode I or II: the final note has the

same value as the simultaneous note in the other voice; but when it is used with the third or fourth mode, there is some question. The examples in the eleventh chapter show these combinations, but only in their perfect forms. For example, when the third and sixth modes are used together, the final note of each voice is a long of three tempora and a long of two tempora, respectively. Thus, the voice in the sixth mode would require a brevis recta rest plus an additional longa ultra mensuram rest, unless it were clear from context that there should be an overlapping of phrases intended:



When mode VI is used with the perfect form of the fourth mode, a final long of three tempora seems to be required:



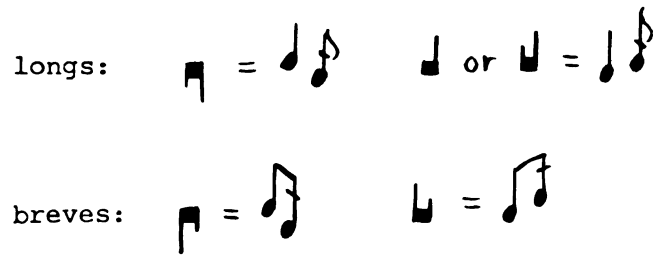
If the sixth mode were to end with a brevis recta in this case, that voice would fall silent before the final perfect consonance were reached. Of course, this is primarily of theoretical interest, because the fourth mode was virtually unused in actual composition.

Chapter II

This brief chapter concerns only the note-symbols and their physical appearance. Throughout the treatise, the term "figure" is used as a generic term for any note or ligature.

In reference to ligatures, the concepts of propriety, perfection, and opposite propriety are introduced. The basis of this is the idea that the neumes as used in square plainchant notation were to be considered the normal forms. They were then classified according to the ascent and descent of the first and final intervals. Since the neumes whose first intervals were ascending normally had no initial stem, this was "proper," and the addition of a stem rendered the ligature "without propriety." The opposite was true for a descending ligature. Likewise, "perfection" referred to the form of the final interval.

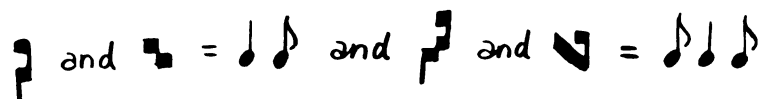
The plica is a stem added to the right of a note or ligature, the direction of that stem indicating an unwritten pitch. It will be noted that since the longa simplex already had a stem to the right, a method for distinguishing the plicated long and breve was necessary; hence, there are two stems of different lengths. Though exact rhythmic values depend on context, the following will illustrate the principle:




Chapter III

The normal forms of ligatures, that is, those with propriety and perfection, were assigned rhythmic values. Thus, the binaria (two-note ligature) is breve, long. The normal ternaria (three-note ligature) is long, breve, long. For ligatures of more than three notes, the value of all those prior to the final two, total one long. Whether these longs are rectae or ultra mensuram must be determined from context.

The second rule here presents some difficulty. As the Latin stands, it translates "any figure without propriety and with perfection has the value of a figure with opposite propriety." This is contradicted elsewhere in the treatise, and so the passage as it appears in the Vatican manuscript is apparently correct: "oppositum" instead of "opposita," resulting in the given translation, and the following:



If this is the correct reading, the upward stems of the descending ligatures are copyists' errors.

Garlandia's explanation of the rhythmic interpretation of ligatures with opposite propriety differs from those of other theorists. Whereas the method given here results in values less than half a breve, it was more common to let the first two notes of such a ligature each equal half a breve regardless of the total number of notes in the ligature. Whether Gardlandia's method was ever in general use is impossible to determine. The use of liquescent neumes () in the illustration of binary ligatures cum opposita proprietate is also unclear. Their rhythmic values are apparently no different from those of the first ligature of the example, and so the concept of perfection has no meaning in these cases. Perhaps these forms retained some of their Gregorian usage as pronunciation aids.



The plica implies the sounding of an unwritten pitch. Willi Apel (The Notation of Polyphonic Music, 5th ed., 1953, p. 227) has termed the written pitch the "plica-note" and the implied pitch the "plica-tone." The plica-tone was performed according to the direction of the stem, usually resulting in what we would now call a neighboring-tone or passing-tone. Thus, if the first note of the following ligature were a repetition of the plica-note, the plica-

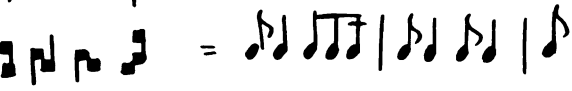
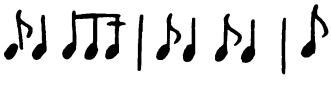
tone would be a second above or below, according to whether the stem be ascending or descending. Otherwise, the plica-tone often filled in the interval of a third, in the manner of a passing tone. Sometimes, however, a larger interval appeared between the plica-note and the next written pitch. In these cases, it appears that there was no standard procedure, although a satisfactory result is usually obtained when the interval between the plica-note and the plica-tone is a second. Occasionally the plica occurred where the interval with the next written pitch was a second, and the same procedure seems to apply; the plica-tone then anticipates the following pitch. The following example illustrates these different uses of the plica as they might appear in Mode I.





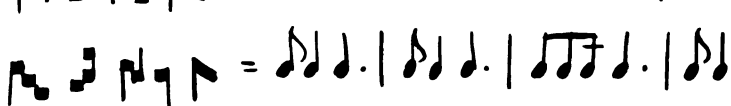

The rhythmic interpretation of the plica is not explicitly stated in this treatise, nor in those of Anonymous IV and Walter Odington. Magister Lambertus (Cousse-maker, I, p. 269), however, treats the subject in some detail. Here it is said that the plica-note and the plica-tone together take the value normally given to

the plica-note if it were not plicated. In those cases where the plica-note would be a binary duration, such as a longa recta, there is little problem; the two notes each receive half of the total duration. When the plica-note would have been a longa ultra mensuram, the plica-tone receives one-third of the total duration. In the transcriptions given here, only the former occurs, always in the sixth mode. The latter would appear in transcription as quarter-note, eighth-note. Thus, the plica could be used in the first or second mode to produce a brief appearance of mode VI. In modes III and IV, the plica, when attached to the altered breve, would also produce mode VI, but when attached to the long would produce the first mode.

Mode I:  = 

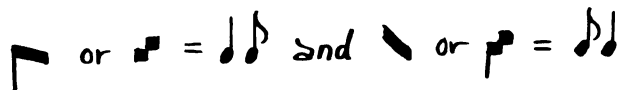
Mode II:  = 

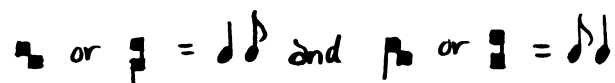
Mode III:  = 

Mode IV:  = 

Note that the addition of the plica to the altered breve of mode III or IV necessitates the division of a ternary ligature. Garlandia gives no such examples, and the above examples of these modes are conjectural; however, they are consistent with the manner in which Garlandia breaks up ligatures for other reasons, in particular pitch-repetition.

The final paragraph of this chapter is highly cryptic. It is an explanation of the syllabic notation (cum littera, as opposed to melismatic notation, called sine littera) used for conductus and motets, in which passages whose rhythms would otherwise be written in ligatures often have to be broken up into smaller groupings or single notes, because only one syllable can be set to a ligature. The specific rules given here, however, are contrary to the previously-stated principles of propriety and perfection. Thus, according to the first two sentences here, binariae with propriety and without perfection are equivalent to long, breve, while binariae without propriety or perfection are breve, long. According to the normal rules, these durations would be indicated by the binariae without propriety and with perfection, and with propriety and perfection, respectively. Thus, here:

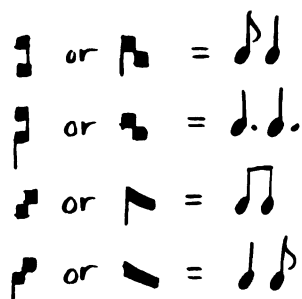


but, above: 

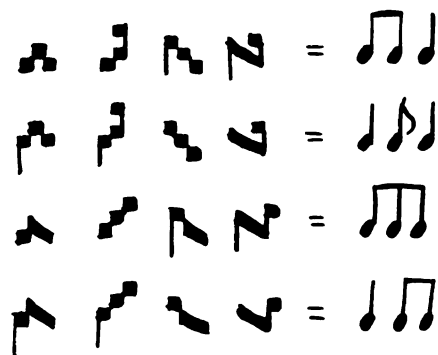
It remained for Franco of Cologne to solve this problem by systematically manipulating both the propriety and the perfection of the ligatures, regardless of context. The short-long significance of the normal binaria was retained. The value of the first note became long for any ligature without propriety; likewise, the second

note was short for any ligature without perfection. In ligatures of more than two notes, the same rules apply to their first and last notes, and all the interior notes are breves unless written with a right-hand stem:

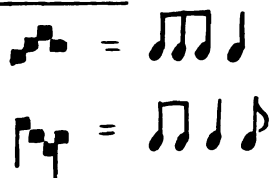
Binariae:



Ternariae:



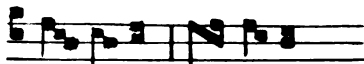
Quaternariae:



The connecting link between the ligature systems of Garlandia and Franco is Walter Odington, who insists throughout his treatise that any ligature with propriety and perfection should begin with a breve and end with a long, regardless of context. Thus, he prescribes

a ternaria without propriety at the beginnings of ordines in mode I, because the first note is long. He goes on to say (Huff, p. 23);

Others give the ternary ligature propriety in this mode along with the binary. Consequently, in a ternaria the propriety indicates a long, in a binaria, a breve, thus:



. . . and so they make both propriety and impropriety represent a breve, which is . . . improper.

Odington explains the several variations of modal notation much as Garlandia does, but consistently dismisses them as "contrary to reason."

According to this passage in the Positio, conductus was written exclusively in imperfect ligatures, and so a separate set of rules was necessary. Waite (p. 95) amends this passage to read:

The rule is that every imperfect ligature, if it is with propriety, extends through a perfection of the first mode up to the first longa that follows it. If it is without propriety, it extends through a perfection of the second mode up to the first brevis that follows. And all this is understood in conductus (and motets) when they appear with a text, if they are notated in the proper manner. But if they are not notated properly, in general all ligatures are to be taken as imperfect, and this is to be understood in discant and wherever correct measurement appears.

This version is much closer to the same passage in the Vatican manuscript (Coussemaker, p. 179):

The rule is: any imperfect figure, if it is with propriety, extends up to the first following long; if it is without propriety, it is understood (to extend) up

to the first following breve. And all this is understood in conductus when it is written cum littera, if it is written in the proper manner. If it is written in an improper manner, all figures are generally taken as imperfect, and this is understood in discant and wherever rectus modus is used.

This confirms that a different set of rules was used for syllabic music, and that some copyists did not observe the custom of using imperfect ligatures exclusively; but the final phrase is still somewhat confusing. Apparently discant here means any measured music, and modus rectus is mentioned to clarify the point that syllabic notation was essentially a breaking up of regular modal patterns. This is explained with greater detail and clarity in Anonymous IV (Luther Dittmer, trans., Anonymous IV, 1959, pp. 38-40), where definite rules are given for equating groups of single notes to the various ligatures.

This entire problem was theoretically obviated only very shortly afterward by Odington and Franco. Odington's example of conductus (Huff, p. 31), however, has no text and utilizes a strict mode I pattern, thus ducking the issue. It would seem that Odington is more interested in saying how he thinks things should be done than in describing what actually was done.

This entire chapter of the Positio must be taken as an explanation of the rhythmic values of ligatures when used apart from regular modal notation. The rules for binariae generally obtain in the modes



as well, but it can be seen that ternariae have different values in different modal contexts. In these cases, there was no attempt to show those differences by varying the written forms of the ligatures. Thus, in mode I, the ternaria has the normal meaning of long, breve, long. But in mode III it is breve, breve, long (the second breve is, of course, altered to two tempora), and yet it is still written with propriety and perfection. There were cases, however, in which the propriety and perfection of the ligatures in modal writing were manipulated, as will be seen in subsequent chapters. This is precisely the confusion about which Odington complained. These unclarified differences between melismatic and syllabic notation are the chief stumbling block to the thorough understanding of this treatise, and indeed of pre-Franconian notation as a whole. The marked differences in the views of the various theorists make it clear that notation was in a period of rather rapid change and local variation. One problem is that of precise chronology. It would be attractive to see a sequence of development from Garlandia to Odington to Franco, but it appears that the treatise of Odington is the latest of the three. Perhaps this is an indication only of Odington's conservatism, and of the fact that developments on the continent were not necessarily paralleled or immediately imitated in England.

Chapter IV

The six modes, as written in ligatures in melismatic (sine littera) organum and discant, are presented here. It is necessary to clarify several points.

First, it will be noticed that in modes I, II, and VI the ligatures retain their normal rhythmic significance according to their propriety and perfection. The second method for writing mode II supports the interpretation that only the propriety of a ligature need be changed in order to reverse all the note-values:

In mode I,  = 

In mode II,  = 

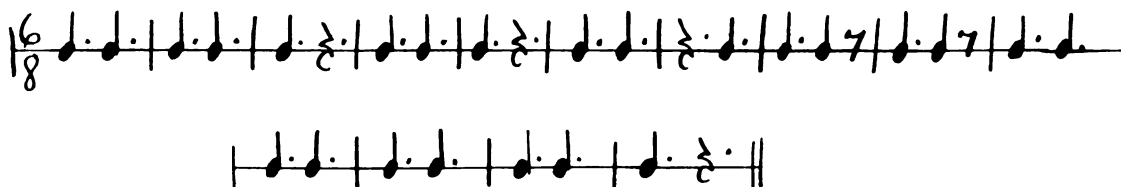
It was only later that both the propriety and the perfection of ligatures were manipulated in such cases. Thus, in modal notation nearly all ligatures are with perfection; this makes the use of imperfect ligatures in syllabic notation quite distinct from the usage of melismatic notation. Only the fourth mode here uses an imperfect ligature, because the final two notes of an ordo in this mode are both breves, even though the second of these is altered to a duration of two tempora.

Second, the length of the rest-signs does not necessarily indicate exact duration in accordance with the later chapter on rests. That chapter is therefore apparently intended to refer chiefly to syllabic notation. In the examples here, the rests in mode I (one tempus) cover two spaces, while those in mode II (two tempora) cover three spaces. However, the rests in modes III, IV, and VI also cover three spaces, while their values range from one to three tempora.

In connection with this point, the first example given here of the fifth mode requires comment. This mode was thought of as perfect when the phrase contained an odd number of notes. Thus, like the third and fourth modes, it was apparently considered to have a modal pattern (perfection) of six tempora. The illustration, however, contains two phrases of two notes, as well as two shorter rests. According to Apel (pp. 245-253), two-note groupings in the fifth mode were often rendered as if the first note were a duplex longa; this was usually clear in juxtaposition with a simultaneous voice.

Another transcription is possible, however. The first chapter states that rests in the fifth mode were sometimes short in imperfect ordines. Also, the chapter on rests says that the length of rest-signs is an exact indication of duration only in the perfect modes. Though these statements may seem to be mutually exclusive in this instance, they do suggest that in the fifth mode the rest is

sometimes a breve. This in turn, of course, requires that the preceding note be shortened to a longa recta. Hence, the example could be transcribed:



However, the slightly later writings of Anonymous IV and Walter Odington make no mention of any variability of the rests in the fifth mode, except that Anonymous IV includes the cautionary note that, in the case of earlier music, more consideration must often be given to the vertical alignment of parts, because notational niceties were often unobserved (Dittmer, p. 21).

The second method shown for writing mode V is identical to that used for the first ordo of mode I; hence the admonition that this is not strictly proper, but is the custom in tenors only. Even Odington, with his distaste for any variant rhythmic reading of ligatures, approves this method (Huff, p. 26). We see here a pattern common in tenors of all types of polyphony at the time, and it would seem that this is the germ of the isorhythmic principle in the fourteenth-century motet.

Third, ligatures must occasionally be broken up into smaller groupings or single notes in order to allow for pitch-repetition.

This seems to follow the rules for non-modal notation, in that a binaria of mode I or II becomes a long and a breve, and a ternaria in mode II may become a binaria without propriety followed by a long. This also holds true in mode IV, where a ternaria can become a breve followed by a binaria with propriety, or an imperfect binaria followed by a long:

In modes I and II:



In mode IV:



There are anomalies, however, such as in the second example of the sixth mode, where a ternaria becomes an imperfect binaria followed by a long (a breve would be more accurate), and in the second example of mode I, where the binaria with propriety must be read as long, breve.

Fourth, the first example of mode II contains a ternaria in the middle of the second phrase. If a rest is supplied immediately thereafter, there is no abnormality. But if it is correct as it stands, then fractio modi is indicated. This is a concept not mentioned in the Positio, but it is covered thoroughly by Anonymous IV and other writers. In cases such as this, the first note of the abnormal ligature takes half the value of the preceding note.

This results in a brief appearance of the sixth mode or, since the ternary ligature begins on the second of group of three tempora, it could be construed as the second mode. The same result could be achieved, but without the implication of mode II, by the use of a plica:



Hans Tischler ("A Propos the Notation of the Parisian Organa,"

Journal of the American Musicological Society, XIV, 1961, pp. 1-8)

disagrees with this interpretation. Tischler bases his opinion on motets which were made by simply adding text to the upper voice(s) of organum. Working from the assumption that the organum and motet versions necessarily have identical rhythms, Tischler would preserve the long value of the last note preceding the abnormal ternaria, and then render the first two notes of the ternaria as semibreves:



This view is supported by many motets, but Tischler has not demonstrated the necessity of exact rhythmic correspondence between the organa and their motet versions. It would seem probable that small rhythmic alterations could have been introduced. This rhythmic adjustment could have been the result of problems arising from the very process of adding a text in order to create the motet. For example,

if the above example were transcribed according to Anonymous IV, the following would result:



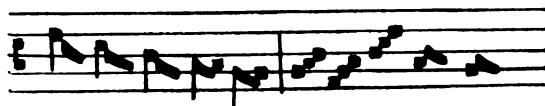
Unless the abnormal ternaria were broken up, any new syllable would have to begin on the first note of the ternaria, thus producing a momentary shift to the accentuation of mode II, as indicated above. The nature of the text may have made this undesirable, and so semibreves were introduced to preserve the trochaic pattern. If the ternaria in question were otherwise broken up, confusion could result as to whether or not extensio modi were intended (see below).

All of this is not to say that Tischler's interpretation is not valid for some cases, but the point is hardly settled. Since the treatises of Anonymous IV and Garlandia are essentially in agreement on most points, it seems reasonable to utilize the method described for fractio by Anonymous IV, even though Garlandia does not explicitly condone it. It is also important to realize that nowhere does Garlandia admit the possibility of the introduction of semibreves into strict modal rhythms. His discussions of currentes and ligatures cum opposita proprietate, both of which use semibreves, are more in reference to syllabic or other essentially non-modal passages, such as copulae. In some instances, principles of consonance and dissonance may well dictate adjustments of the kind Tischler describes. Unfortunately, Garlandia's polyphonic examples do not help us here.

- III. quaternaria without propriety and with perfection, ternariae with propriety and perfection.
- IV. ternariae with propriety and perfection, binaria with propriety and without perfection (as Garlandia).
- V. single longs.
- VI. ligatures of any number of notes with propriety or opposite propriety, and without perfection.

Garlandia's method of writing mode VI with plicated binariae is mentioned, but dismissed as being in reality mode II; the concept of "reduction" to another mode is absent here.

Lambertus is essentially in agreement with Garlandia where the modes correspond, except that imperfect ligatures are used for mode V (Coussemaker, p. 275):



Chapter V

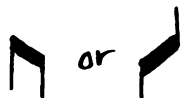
The imperfect modes are those in which phrases end with a note-value different from that of the initial note. The underlying

concept here is that the succession of durations basic to a particular mode continues, with rests placed where a repetition of the initial note-value would normally have occurred, thus causing the succeeding phrase to begin in the middle of the modal pattern. It is in these imperfect modes that we see a great deal of manipulation of the propriety and perfection of the ligatures.

In this chapter there are several problems with the original text. For example, in the explanation of the first method of writing mode III, the original states that the ternariae should be imperfect, whereas they are shown as perfect; inasmuch as the final note of a ternaria is long, it is more fittingly perfect, and so the text has been amended here. In the subsequent example, the explanation is incomplete. The full pattern is: long, imperfect binaria, rest, long, perfect binaria, rest, etc. In the illustrations of mode II, there are apparently missing rests; the third rest of the first example and the fifth rest of the second example have been added.

The examples of the imperfect sixth mode also require comment. It will be noticed that the ascending plicated binariae are written in imperfect form. This is apparently only a notational convenience, and it is mentioned by Odington (Huff, p. 22): "Occasionally an ascending ligature, without perfection, has the plica too; but in this instance the plica, according to some, changes the ligature from

imperfect to perfect." He then goes on to say that a plicated ligature can be rendered imperfect by use of the oblique stroke:



In this case, the plica-note and plica-tone together would equal a breve, and so semibreves result. This explanation helps considerably in interpreting the examples of imperfect ligatures given near the end of the third chapter.

In the second example of mode VI several of the binariae are separated into single notes because of pitch-repetition. The second note of each pair is written as a regular long, although according to the second chapter two stems are required for a descending plica, the one on the right longer than that on the left.

Anonymous IV discusses the imperfect modes in much greater detail than does Garlandia, but Odington treats them even more briefly. It is true that they were hardly ever used in actual compositions, and so are chiefly of theoretical interest. The corresponding passage in the Vatican manuscript is much abbreviated. Detailed explanations of the proper ligatures are absent, and many of the examples are obviously incorrect. For example, the following is given to illustrate the imperfect second mode:



The first part of this example corresponds to the imperfect third mode as explained in the Positio, and the remainder has no counterpart there, though it is easily transcribed. Though the same chant sources are used, none of the examples in the Vatican manuscript occurs in the Positio in precisely the same form and location.

Franco of Cologne, speaking about the imperfect modes, mentions that the rest has the capacity to change the modes, so that the first mode becomes the second or vice versa. In the imperfect first mode, for example, the second phrase will begin with a breve, which was apparently not thought of as any sort of anacrusis. Thus, there was probably no concept of real accent or stress in this music, but rather a purely qualitative concept--a point of similarity with classical metrics (for further discussion of this point, see Waite, pp. 40-41 and passim).

Anonymous VII (De musica libellus, Coussemaker, I, pp. 378-383) also mentions changing modes within a phrase, but in a different way:

And it should be known that the first mode, which proceeds with a long and then [a breve], merges with the fifth mode, which proceeds with all longs; for sometimes in a motet, after several longs, there immediately follows a long and then a breve; and thus one mode is made from two by equipollentia and by such merging.

The second mode merges with the third, for after a long or two breves in the third mode, a breve and then a long can immediately follow. And thus from the third and second modes one mode can be made by equipollentia

H

and by such merging. Similarly, the third mode and the fifth merge in this [way], because after a long in the fifth mode, two breves from the third mode can follow; and thus, by equipollentia and by such merging, one mode can be made from the third mode and the fifth.

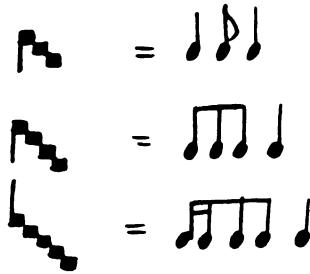
This seems to refer chiefly to syllabic music of the later part of the period in question, when the modes were not so strictly observed. The first paragraph of the passage, in particular, supports the transcription of the conductus in the Appendix below; if the overall rhythm is considered to be that of mode V, then binariae are transcribed in mode I rather than mode II.

The treatise of Anonymous VII is not long, and is, on the whole, consistent with the Positio. It does not cover notation in any depth, but discusses tempus, the basic note-values, forms of notes and ligatures, intervals, and a few points concerning the ecclesiastical modes in antiphons and Psalm tones.

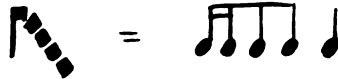
Though the note-values are described as in Garlandia (e.g., the longa recta has two tempora), ligatures are treated somewhat differently. Here there is no reference to opposite propriety, and five-note ligatures cum proprietate have the initial upward stem:



All ligatures of more than three notes are reduced to the value of the ternaria, which is long, breve, long:



This example makes it clear that the concept of opposite propriety is in force here, though unstated. This treatment of five-note ligatures is also similar to the interpretation of currentes or conjuncturae as presented by Anonymous IV and others:



The values for ligatures other than those with propriety and perfection are not given.

The passage immediately following that given above is also of interest, because it implies something similar to Garlandia's concept of reduction:

It should be observed that the motellus [upper voice of a motet?], in whatever mode it may be, should be judged according to that mode in which the tenor is. And the reason is that the tenor is the foundation and more important part of the motet; and a thing should be identified according to the more important and more worthy. Therefore, if the motellus is in the first mode, as in Bone Compaignie and O quam sancta and many others, but the tenor is in the fifth mode, the motellus is said to be deemed in the fifth mode, for a long and a breve in the motellus are equivalent to a long in the tenor; for any long in the tenor has the value of a long and a breve in the first mode according to the rule given above.

H

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

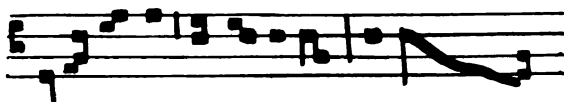
1000

1000

The fifth and sixth modes cannot, of course, end with a duration different from the initial one, and so here the concept of perfection refers to the normal length of a modal pattern. In mode V, this was apparently six tempora, so that the final note of a perfect ordo plus the necessary rest completed the final perfection. Thus, the imperfect form of this mode had an even number of notes, so that the rest occupied only the first half of a perfection. There is evidence that this was not a stable concept, however. When used with the first or second mode, the fifth mode may have been conceived as having a perfection of only three tempora. The examples of mode VI make it particularly unclear as to whether the perfection was three or six tempora. There is no apparent difference between Garlandia's examples of the perfect and imperfect forms of this mode, except that the ligatures fall in different rhythmic positions.

The Vatican manuscript is also unclear on this point. The example of the perfect fifth mode has one ordo of five notes and one of ten; the imperfect example is correct, however; three ordines of four notes. The examples of mode VI are totally incoherent (Coussemaker, p. 177) :

Exemplum sextae de modo perfecto:



101

102

103

104

105

106

107

108

109

110

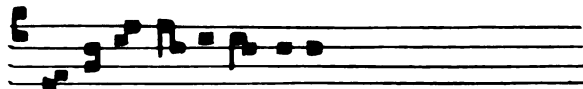
111

112

113

114

Exemplum sextae de imperfecto modo:



For the views of Odington and Anonymous IV on this problem, see below.

Chapter VI

The general rules presented here apply to both modal and non-modal music. Most are fairly easily understood, and are consistent with preceding statements. Thus, the rule that ligatures of more than three notes are reduced to the value of three, holds true for the quaternaria found in the sixth mode:

$$\text{■ ■} = \text{♪ ♪} \text{ and } \text{■ ■ ■} = \text{♪ ♪ ♪}$$

Garlandia is careful to stress the point that these equivalences (equipollentiae) depend on context, just as do the values of ligatures in modi recti.

The final paragraph, however, is quite difficult. Waite (p. 87) translates this passage, "Whenever there is a multitude of breves, i.e., semibreves, they always share in the value of the preceding note, because the preceding note together with these semibreves is understood to have only such a value as the preceding note represents." In practice, that preceding note was always a long, and so

11


we have here basically another type of fractio modi, usually referred to as currentes ("running notes") or conjuncturae, and these are perhaps the most difficult problem in thirteenth-century notation. In Garlandia's example, it is difficult to recognize any modal context, and so, without knowing whether the longs are rectae or ultra mensuram, no transcription is possible. After the rest, mode III may be intended, and this portion would then become:



It seems probable, however, that the illustration is simply a group of representative ligatures of this type, rather than a measured passage.

Anonymous IV is in agreement with Garlandia on the point that currentes share in the value of the preceding note. The most extensive presentation of this subject is in the Tractatus of Magister Lambertus (Coussemaker, pp. 275-278). According to this passage, either currentes (here called conjuncturae, although it should be noted that elsewhere Lambertus uses the term interchangeably with "ligature") or semibreves of a ligature cum opposita proprietate could imperfect the preceding note. Thus:



It is interesting to note that in the first example the plica shortens the value of both notes of the binary ligature, rather than only that of the plica-note (). Lambertus is explicit in stating that the semibreves are equal.

This final paragraph of Garlandia's chapter also brings out the point that the terms breve and semibreve were not completely fixed at this time. Sanders ("Duple Rhythm . . .," pp. 267-268) discusses this, pointing out the avoidance of the word "semibreve" in Anonymous IV, and coming to the conclusion that "semibreve" can mean half of either a breve or a long. That is to say, if two shorter values take the place of a long, they can be called semibreves, although their value is that of a recta brevis. Lambertus, however, seems to use semibrevis exclusively in reference to divisions of the breve.

Chapter VII

There is little difficulty with this information on rests, except for some of the statements concerning the relationship of the rest to the preceding mode. The principle that a perfect mode contains an odd number of notes is obvious with respect to modes I, II, and V, but is not necessarily true for the others. It has been shown that there is no discernible difference between Garlandia's

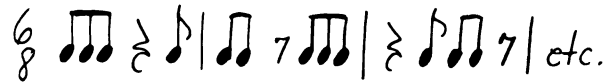
illustrations of the perfect and imperfect forms of the sixth mode, and so the pertinent statements here are difficult to apply. Even if it is assumed that the perfection of the sixth mode is six tempora, it can be seen that the second example given above of the sixth mode has an ordo of twenty-two notes, an even number.

It is probable that "even" and "odd" here are in reference to the normal number of notes found in a particular ordo. Thus, any multiple of three (or six) would be an "even" number for mode VI, and likewise for modes III and IV. If this is true, then it would seem that Garlandia considered mode V to have a perfection of six tempora, and would thus require a duplex longa rest in some cases where the number of notes is even. However, this is difficult to square with the examples given elsewhere in the Positio.

The other theorists are of little aid in clarifying this point. Odington (Huff, pp. 19-20) states that the sixth mode has a perfection of three tempora, but that it is sometimes considered to be six tempora when used with the modi per ultra mensuram. In the perfect form of the mode, therefore, there are groups of three notes followed by a single breve and then a rest of two tempora. The imperfect form has only groups of three:



This does not appear in Garlandia's examples, however. Anonymous IV (Dittmer, p. 23) describes a more complex repetitive pattern similar to Garlandia's second example of the imperfect first mode:



Also, both of these theorists consider the perfection of the fifth mode to be only three tempora when used with modes I and II: this eliminates any concept of perfect and imperfect.

The rule that the rest takes the value of the penultimate note of the preceding mode is also problematic; it is true only for modes I, II, and V. It is perhaps significant that these are also the modes which most often appear in compositions, and so this rule would apply to most instances encountered by the performers of the period.

Garlandia seems to apply general rules to matters which simply cannot be so systematized; his method is typical of the often turgid scholasticism of the thirteenth century. Hence the rule that perfect rests (i.e., those used in the perfect forms of the modes) should be reckoned according to their length; but in his own examples this precept is not observed, even where the different versions of the treatise agree.

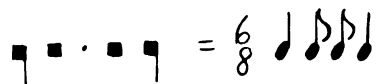
The parallel passage in the Vatican manuscript is of some help with this chapter. It is important to note that it has demissio

for divisio in the second sentence: "A rest is the absence of sound made in a proper quantity."

Chapter VIII

The types of rests presented here are those found in both modal and non-modal contexts. The finis punctorum roughly corresponds to a double bar placed at the end of a section, generally followed by a change of style; from strictly modal organal or discant style to the freer copula, for example. The divisio modorum is the rest placed between ordines in modal passages, and its duration varies according to context, especially in the imperfect modes. The divisio syllabarum and suspiratio are not rests at all, properly speaking. The former simply marks changes of syllable in order to facilitate coordination of voices in melismatic passages. The latter is apparently only a breath mark for the singer or player. Thus, neither of these is a measured rest.

Anonymous IV does not expand significantly on the information given here, although he does give some specific examples. Odington, however, anticipates the later punctus divisionis, calling it divisio modi:



Odington also introduces the semibreve rest, and differentiates between the perfect, imperfect, and altered forms of longs and breves. Thus, the perfect long rest covers three spaces, the imperfect long or altered breve covers two, and so on, according to the number of tempora represented. The finis punctorum is also included, but not the divisio syllabarum and suspiratio.

The rests given by Lambertus are similar, but provide for two types of semibreve (one-third tempus and two-thirds tempus): perfect long rest, four spaces; imperfect long or altered breve, three spaces; brevis recta, two spaces; semibrevis major, one space, semibrevis minor, one-half space. These are named, respectively, perfecta pausa, pausula imperfecta, suspirium, semisuspirium majus, and semisuspirium minus. The finis punctorum, divisio syllabarum, and suspiratio are not mentioned. This is essentially the same as Franco's system.

Chapter IX

Garlandia's classification of consonance and dissonance results in the following ordering from most consonant to most dissonant:

1. unison, octave
2. perfect fifth and fourth
3. major and minor thirds

4. major sixth, minor seventh
5. major second, minor sixth
6. semitone, tritone, major seventh.

The demonstration of compound intervals attempts to treat the subject with the techniques of Aristotelian logic (Garlandia was one of the scholars who persisted in teaching Aristotle in spite of the Papal ban then in force against most of Aristotle's writings). It is an interesting glimpse into the scholastic method, but is hardly a cogent argument. The point being made can be deciphered thus: given an octave on G, a third above the upper note is consonant with both pitches of the octave, but a third above the lower G forms a sixth with the other, and so is consonant with one and dissonant with the other. The same argument is unsuccessful, however, when applied to the fifth, because a fourth and a fifth are formed, which are equally consonant according to Garlandia's classification. It is probable that this entire passage is a borrowing from another source, according to which the fourth was considered less consonant than the fifth. For example, Odington (Huff, pp. 28-29) considers the fourth a proper consonance within a piece, but states that the final interval should be a unison, octave, or fifth.



Chapter X

This brief chapter presents the mathematical proportions of the various intervals. As explained in Anonymous IV (Dittmer, pp. 53-56), there were five types of proportions: multiplex, superparticularis, superpartiens, multiplex superparticularis, and multiplex superpartiens. In the multiplex variety, one number is a multiple of the other; thus, the octave, 2:1, is of this type. Superparticularis proportions are those in which the upper number is one more than the lower. For example, sesquioctava, or 9:8, falls into this category. Those proportions whose upper number contains the lower plus several fractions were termed superpartiens: superseptempartiens nonas means that the lower number is nine, and the upper is nine plus seven, i.e., 16:9. The final two types represent multiples of these, for example, multiplex superparticularis is a ratio in which the upper number is a multiple of the lower, plus one.

Garlandia's ratios are those of Pythagorean intonation. That given for the minor sixth, however, is incorrect. The correct proportion for the sixths E-C, A-F, and B-G is 384:243 (in other words, CCLXII should be substituted for CCXLII in the manuscript). This is obtained by subtracting the major third from the octave. It should also be noted that Garlandia's ratio for the tritone, 729:512, is the augmented fourth, obtained by subtracting the perfect

fifth from the major seventh. The ratio for the diminished fifth, 1024:729 (obtained by subtracting the major seventh from the perfect eleventh) is omitted.

The explanations given for the major and minor thirds are somewhat unclear. They are freely translated here, but perhaps another interpretation is possible. The given translation proceeds from the assumption that the statement literally says, "The major third is a lesser superpartiens than the minor third." That is to say, the upper number is proportionally closer to the lower, and so the ratio is closer to equality and the interval is more consonant. If, however, the term "lesser superpartiens" indicates a specific interval, a reading which also makes grammatical sense, then the statement would read, "The major third is greater than the minor third by the lesser superpartiens." That interval of difference is 2187:2048 (major third minus minor third, or 81:64 divided by 32:27), which in the Pythagorean system is also the difference between the whole-tone and the semi-tone. This was usually called the apotome, chromatic semitone, or semitonus major (because it is a larger interval than 256:243, the diatonic semitone).

This interpretation, however, breaks down when we proceed to the explanation of the minor third, because it is incorrect to say that the minor third is greater than the next smaller interval by the

same difference: the minor third minus the major second (32:27 divided by 9:8) equals 256:243, the diatonic semitone (or diesis, or semitonus minor).

It can be seen that Garlandia's explanation of intervals is, at best, incomplete. It is more a quick primer than a full exposition.

The rules for the placement of dissonance seem to be followed for the most part in the polyphonic examples in Chapter XI. The only real prohibition here is that a consonance should not be preceded by any of the three most dissonant intervals. However, it will be seen below that the tritone is occasionally found in a consonant position regardless of the theory.

Chapter XI

This section is arranged so as to present examples of all possible combinations of the six modes in two-voice discant. It begins with a general discussion, defining discant as the simultaneous sounding of measured voices. It will be seen that this is in distinction to organum, in which the tenor was not measured (but organum is also generic for all polyphony), and copula, in which

rhythm was essentially free of modal patterns. Sonus is apparently the melody itself or the pitch of an individual note, whereas ordinatio refers to the arrangement of that melody into ligatures and rhythmic patterns so that the total duration will coincide properly with another voice.

The third paragraph says essentially that longs in any mode ought to be consonant; literally, the statement refers to the odd-numbered notes, which are longs in the first mode. Thus, there was nearly always consonance in strong rhythmic positions. This does not necessarily mean that part of the measure which would be considered rhythmically strong today. In mode II, for example, the long is rhythmically strong merely because of its longer duration, though it falls on what would be called a weak position in the bar. This idea is immediately qualified by the statement that two notes equivalent to a long may be set against a long, and that either one of them may be dissonant. There are many instances of this in the illustrations which follow; for example, this passage from example 75:



Many surviving organa (but none of Garlandia's examples) begin in this manner, with a strong dissonance at the initial attack:



Octaves, fifths, and unisons, as is to be expected, are the most common consonances in these illustrations, but thirds and fourths are also fairly common, and there are instances of the tritone being used as a consonance (this is from example 63):



Sixths are here consistently treated as dissonant intervals.

The examples in this chapter are arranged in the following order: first, modus rectus with modus rectus, then modus per ultra mensuram with modus per ultra mensuram, and then modus rectus with modus per ultra mensuram. Each of these groups has two divisions; either the modes are "in the same ordo" or "in opposite ordines." In most cases, this concept is fairly clear. Two modes are said to

be "in the same ordo" when the longs--that is, the parts of the pattern requiring consonance--fall simultaneously. Thus, when modes I and II or III and IV are used together, the longs fall in different rhythmic positions, and so the modes are said to be "in opposite ordines." Since the sixth mode contains no longs, it must be considered as equivalent to either the first or the second mode, so that the note requiring consonance would be either the first or second of the pattern. When written as plicated binariae, the plica-note of each ligature was theoretically long, and so in this form the mode was considered equivalent to mode II for harmonic purposes. When written in ternariae the sixth mode could reduce to either the first mode or the second.

The fifth mode could also be thought of as reducing to either mode I or II. Therefore, when it appeared along with the third or fourth mode, the altered breve of the latter was often consistently consonant as though it were a longa recta of mode II.

Though this concept is not excessively difficult, it is often difficult to apply to the examples. In the case of examples 65 and 66, it is hard to see any difference from examples 60 and 61, though the former are supposedly on opposite ordines and the latter in the same ordo.

There are other anomalies as well, most being obvious copying errors; for example, the listing of modes III and VI among combinations

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

of odd-numbered modes, whereas the examples are of modes III and V (examples 90 and 91). Near the end of the chapter, in the section concerned with combinations of modi recti and modi per ultra mensuram, the combination of modes I and VI appears, though both are modi recti.

Fractio modi is found in numerous instances in these examples (such as the final one, example 99), and there is one instance of what appears to be extensio modi. In example 84, a binaria is found in the sixth mode. It is here transcribed breve, long, in order to preserve the rhythmic placement of the following ligatures. However, the questionable use of a dissonance against the long in the upper voice suggests that the original is incorrect at this point.

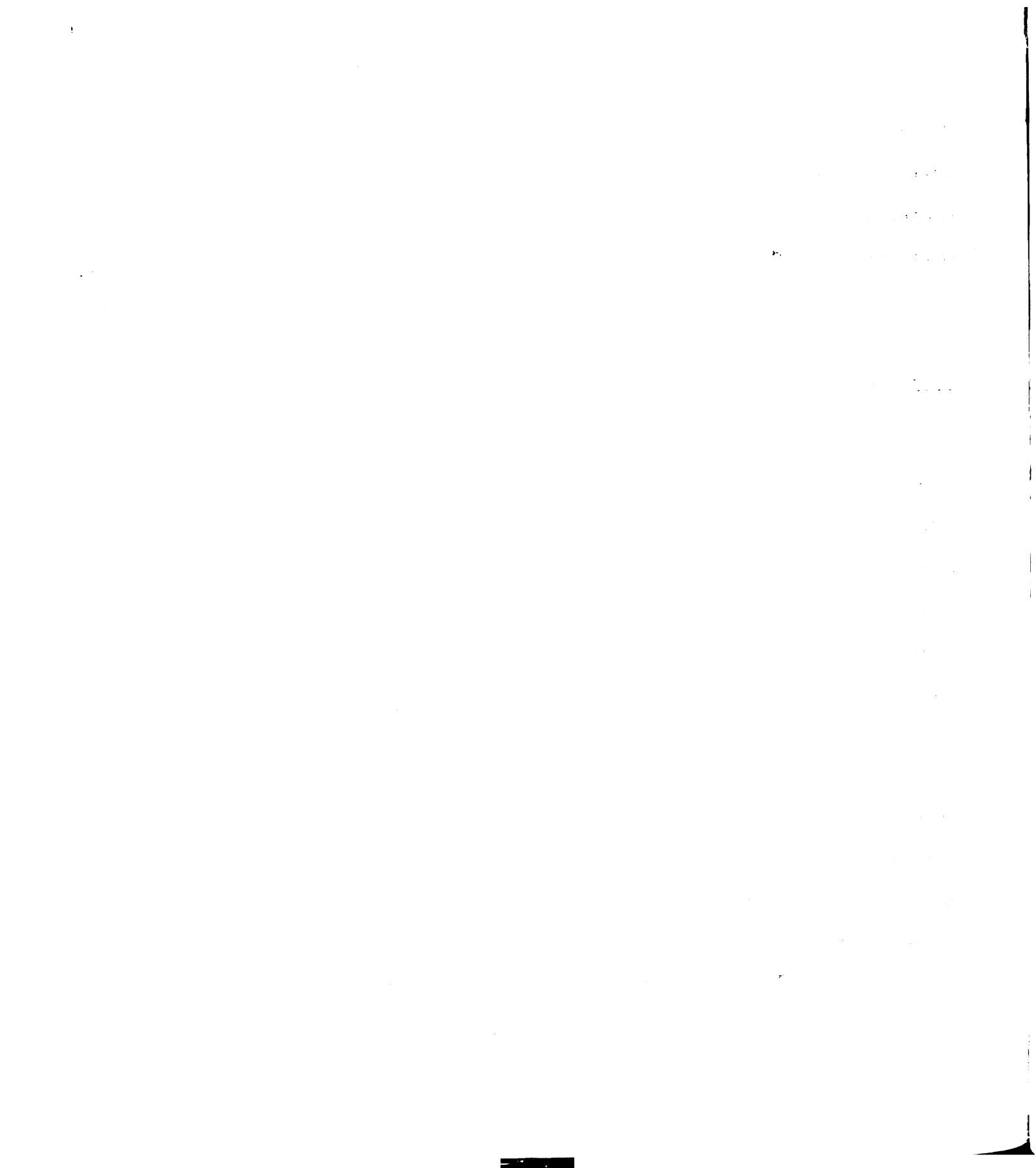
In many of the examples the value of rests is doubtful, especially in combinations of modes whose final durations are different. The upper voice ends before the final consonance is reached in example 84, and an extra rest of three tempora is necessary. There are numerous similar circumstances.

A copula is a brief passage in no strict mode, usually occurring at the end of a main section of organum. The notation usually included numerous currentes and plicae (this is apparently what is meant by tractus, or "lines"; see Waite, P. 116). There was often an underlying modal rhythm, but it was almost completely obscured both aurally and visually by the abundance of irregular groupings.

Odington describes the copula somewhat differently (Huff, pp. 31-33). Here, it is placed at the ends of sections and is always begun with an unmeasured long, and then proceeds in binary ligatures in either the first or the second mode. There is also the possibility of writing copulae with all unligated notes, in which case they are apparently equal breves as in the sixth mode.

Many copulae contain currentes of as many as nine notes, and several more or less satisfactory solutions are possible in most of these cases. Sometimes it appears that the ligatures have none of their normal rhythmic significance, and so one must proceed merely on the basis of consonance and dissonance.

Garlandia's classification of organum into per se and cum alio apparently refers to two- and three-voice writing, respectively. Two-voice organum could be either strictly modal or rhythmically free; this latter accounts for the great majority of early organum duplum, often referred to as organum purum. This was similar to the unmeasured organum of St. Martial, and apparently comes from a time when the ligatures were beginning to assume rhythmic significance, but were not yet systematized into modes. Most of the notes, however, were read as longs or breves as in mode I (rectae), and so it is to this that Garlandia is referring in the final passage of this chapter. Since longs and breves were not consistently differentiated by their



physical appearance in that early stage, it was necessary to determine durations on the basis of consonance and dissonance. This subject is treated much more thoroughly by Anonymous IV (Dittmer, pp. 71-72), where specific and exhaustive rules are presented.

Chapter XII

Just as the word organum is both generic and specific, the term triplum refers both to three-voice polyphony and to the third voice itself. This third voice was added to two previously composed, a process known as "successive counterpoint." The triplum was required to be consonant with only one of the other voices, and so there was often a much greater incidence of dissonance in tripla than in dupla.

In the second paragraph, the listing of intervals proper to the various types of polyphony apparently refers to the maximum interval spanned by the other voices at any time rather than a general range limitation. The treble octave was apparently indicated by some special convention of notation ("large musical figures"), but the precise meaning of this is unclear.

The four rules given for the adjustment of melodic intervals are essentially what was later known as musica ficta. Thus, there

will be a B-flat in the first example, and an F-sharp in the second. The third rule is difficult to interpret; perhaps the "broadening" is some sort of rubato or ritard. This may have something to do with the performance of chant, the kind of thing indicated by the episema in the editions of the Benedictines of Solesmes.

The reference to synemmenon, however, also suggests some manipulation of intervals. Synemmenon was the process of adding a conjunct tetrachord in Greek theory, and in the Middle Ages the concept was applied to the theory of hexachords. In the first example, this means that whereas the beginning utilizes the "natural" hexachord C-A, the B-flat is provided by overlapping the "soft" hexachord F-D, with three notes common to both. In order to arrive at the F-sharp of the second example, it is necessary to use a hexachord on D, because any hexachord had only one semitone, falling between the third and fourth notes. In the original Guidonian system, only the hexachords on C ("natural"), F ("soft"), and G ("hard") were used, and so B-flat was the only possible accidental.

The final rule here indicates that a C-sharp was supplied; thus providing a leading-tone to D. This was apparently done in plainchant as well as polyphony at the time. Garlandia's caution concerning this practice in polyphony is easily understood through this illustration (from chapter XI, example 96):





If F-sharp is supplied in the upper voice according to the second rule, then a diminished fifth occurs with the C in the lower voice. This would violate the rule in Chapter X that a perfect dissonance ought not immediately precede a perfect consonance. If the C in the lower voice is sharped as well, all the rules seem to be satisfied. There are many instances in which this type of chromatic alteration is suitable on melodic grounds, but results in unacceptable vertical sonorities. It is apparent that the so-called double leading-tone was a part of performance practice as early as the mid-thirteenth century, although in the example above it might be preferable to avoid chromatic alteration altogether.

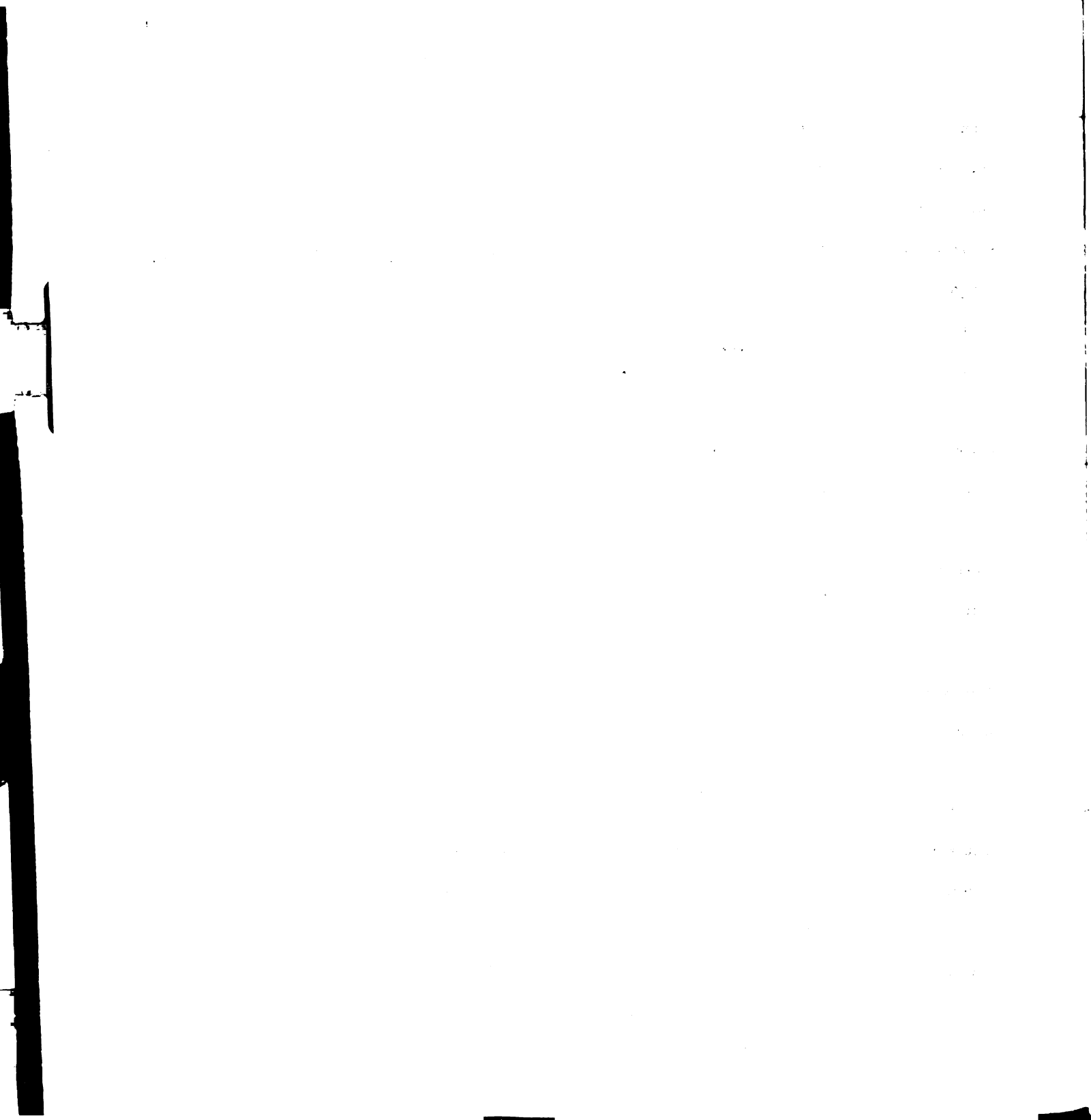
Color is a relatively vague term referring to ornamental effects. The examples here show sequence-like patterns and a repetition of pitch which must have been some sort of vocal tremulando much as the distropha and tristropha (■■ and ■■■ on a single syllable) may have been in chant. The statement concerning repetition in the same voice probably has reference to various secular song-forms which used refrains and other musical repetitions quite extensively. The

term rondellus was sometimes merely the Latin form of rondeau, but was also used to mean a type of polyphony similar to a round or canon, in which a melodic fragment was passed from voice to voice while the accompanying voice or voices were varied. Odington uses the term in this sense, and gives a complete example (Huff, pp. 29-30).

The next illustration shows a simple exchange of parts, now generally known as Stimmtausch. The notation is somewhat irregular. The plicated ligature should probably be perfect, and the descending currentes would be better expressed by a ternaria cum opposita proprietate. However, the other voice makes it clear that mode II is intended, and so the solution is arrived at through consideration of consonance and dissonance. It seems probable that the B-flat in the second measure of the lower voice and again in the third measure, upper voice, should be performed as B-natural.

The paragraph concerning the "nobility" of the music is cryptic. The exact usage of the term augmentation is unclear, and the wordings of the editions of Coussemaker and Cserba are different. Cserba's version is given here, but neither his nor Coussemaker's is entirely satisfactory.

The mention of hocket contains the only known occurrence of the term flaiolis, which has no readily apparent etymological



connection with any standard Latin or Greek term. Odington (Huff, pp. 34-39) gives a much more thorough discussion of hocket, including an example in each of the six modes. He also mentions that when semibreves are used in hocket a small circle is used in place of the divisio modi, because the latter is identical with the semibreve rest. This does not appear to have been in general use, inasmuch as there is no mention of it by the other theorists.

Anonymous IV and Odington also refer to various types of ornamentation. Anonymous IV uses the term florata in describing the prolongation of a consonance at the beginning of a piece, and Odington says that in organum purum the sustained tenor is "held tremulando, even when it strikes a dissonance" ("Tenor autem tremule teneatur, et cum discordia offendit," Coussemaker, p. 246).

Franco also mentions that there was some discretion left to the performer, but this is stated in the context of the preservation of consonance (Coussemaker, p. 135):

Whatever is long, let it seek concordance with respect to the tenor; but if a dissonance should arise, let the tenor be silent, or shape itself into concordance.

Later in the same passage the word floratura appears, describing how the notes should be sung when all the voices approach a unison.

Garlandia was certainly acquainted with the term color as it was used in rhetoric and literature. This technical usage dates



back to a more or less figurative usage by Cicero and others; the terms flos (flower) and color could be taken to mean either an ornate style of writing or speaking, or a specific embellishment of diction. Seneca described rhetoric as consisting of three parts: sententiae, the ideas presented; divisio, the analysis and organization of those ideas; and colores, the imaginative expression of ideas (see Charles Sears Baldwin, Ancient Rhetoric and Poetic, 1959, pp. 97-100).

According to James J. Murphy (Rhetoric in the Middle Ages, 1974, p. 189), color was by the middle of the eleventh century a technical term meaning a figure of speech. By the time of Garlandia, most treatises on rhetoric referred to figures of speech as colores verborum. Garlandia's own treatise, De arte prosayca, metrica, et rithmica, lists forty-three colores verborum and eighteen colores sententiarum (figures of thought).

The relationship of this to the musical use of the term becomes apparent when this list is examined: the first three entries under colores verborum are repetitio, or anaphora, the repetition of a word at the beginnings of successive lines; conversio, or antis-trophe, the repetition of a word at the ends of lines; and complexio, or interlacement, a combination of the other two. Garlandia's examples of color in music are also largely concerned with forms of repetition. Thus, it seems that musical expression was considered,



at least in some quarters, to be parallel to rhetorical expression.

By the following century, this technical usage of the term color had faded. Colores rhetorici in the fourteenth century came to mean simply "figurative language" in a general sense. In the Canterbury Tales, Chaucer mentions "colours of rethoryk" almost sarcastically, implying that stereotyped figures of speech have no place in good narrative (see Charles Baldwin Sears, Medieval Rhetoric and Poetic to 1400, 1959, pp. 289-292; other studies of rhetoric which make reference to Garlandia and the colores are listed in the Bibliography).

Chapter XIII

This final chapter is in large part a repetition of the remarks in the previous chapter, but now applied to a fourth voice. The comments concerning range are puzzling, because actual examples seldom exceed the double octave in total range. It is possible that instruments sometimes played an octave higher than written. Likewise, the term duplex cantus is unclear. Duplex discantus would seem to make more sense, but would still have little meaning in the context of the entire passage.

The second of the three rules given near the end of the chapter is in reference to contrary and oblique motion. This point is also stressed by Odington (Huff, p. 29).

In the third rule, the terms copula and punctum are virtually synonymous. Clausam lay is unclear, but it may have a similar meaning as well, and perhaps simply means a closing section. The reference to instruments seems to imply that there were sometimes instrumental passages within vocal compositions. There are none clearly called for in Notre Dame organum, but since this chapter is probably an addition to the treatise, it may refer to motets and other pieces of the period around 1300, which often include melismata apparently intended for instrumental performance.

The question of the use of instruments in thirteenth-century music is one which deserves investigation. Many of the conducti of the period include melismata which may have been for instruments, and many writers mention the use of instruments in support of the voices. This would seem to be a matter of obvious practicality in the case of the sustained tenors of organum purum.

There is even considerable doubt as to precisely what instruments were in general use. One of the instrumental (i.e., textless, and therefore presumed to be instrumental) motets of the Codex Bamberg is entitled "In seculum viellatoris," indicating performance

by viols, but aside from a little pictorial evidence, further information is lacking.

The Codex Bamberg

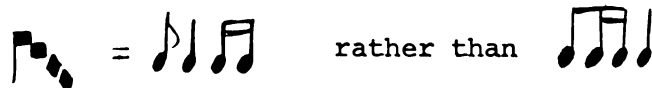
This is a collection of one hundred motets and conducti which includes several textless pieces at the end. The notation used here corresponds closely to that explained by Garlandia in the Positio. The one major difference is that rests, which here always indicate precise durations, are somewhat different. The semibreve rest covers one space of the staff, and the brevis rest covers two. Likewise, the longa recta rest covers three spaces, and the longa ultra mensuram four.

There are other minor variations. Sometimes two notae currentes are immediately followed by a breve. This is simply read as two semibreves followed by a brevis recta; the entire grouping thus has twice the value of a group of three notae currentes:



There are also instances of currentes appearing in connection with single longs or with ligatures whose last notes are long. It is apparent from context that the currentes must be read as separate

semibreves in these cases, rather than sharing in the value of the previous note. Thus, in the textless motet Neuma (Aubrey, I, folio 62^{vo}):



Garlandia's remarks apparently are valid only for the earlier organum. However, Anonymous IV also states that currentes should share in the value of the last note of the preceding ligature. It is therefore probable that the older practice survived longer in England than on the continent.

There are tenors in modes I, II, III, and V, as well as rhythms which combine modal patterns. Mode V is always written in longs; consequently there is no confusion with mode I. The rules for propriety and perfection of ligatures as described by Garlandia are observed faithfully here; for example (Aubrey, I, folio 27^{ro});



The cum littera notation of the upper voices are nearly devoid of all but imperfect ligatures. Perfect ligatures appear only at the ends of phrases where final longs are required. Nearly all

of the upper voices can be construed as utilizing variants of mode I, II, or III, altered mainly through the use of the plica, ligatures cum opposita proprietate, or groups of two or three semibreves.

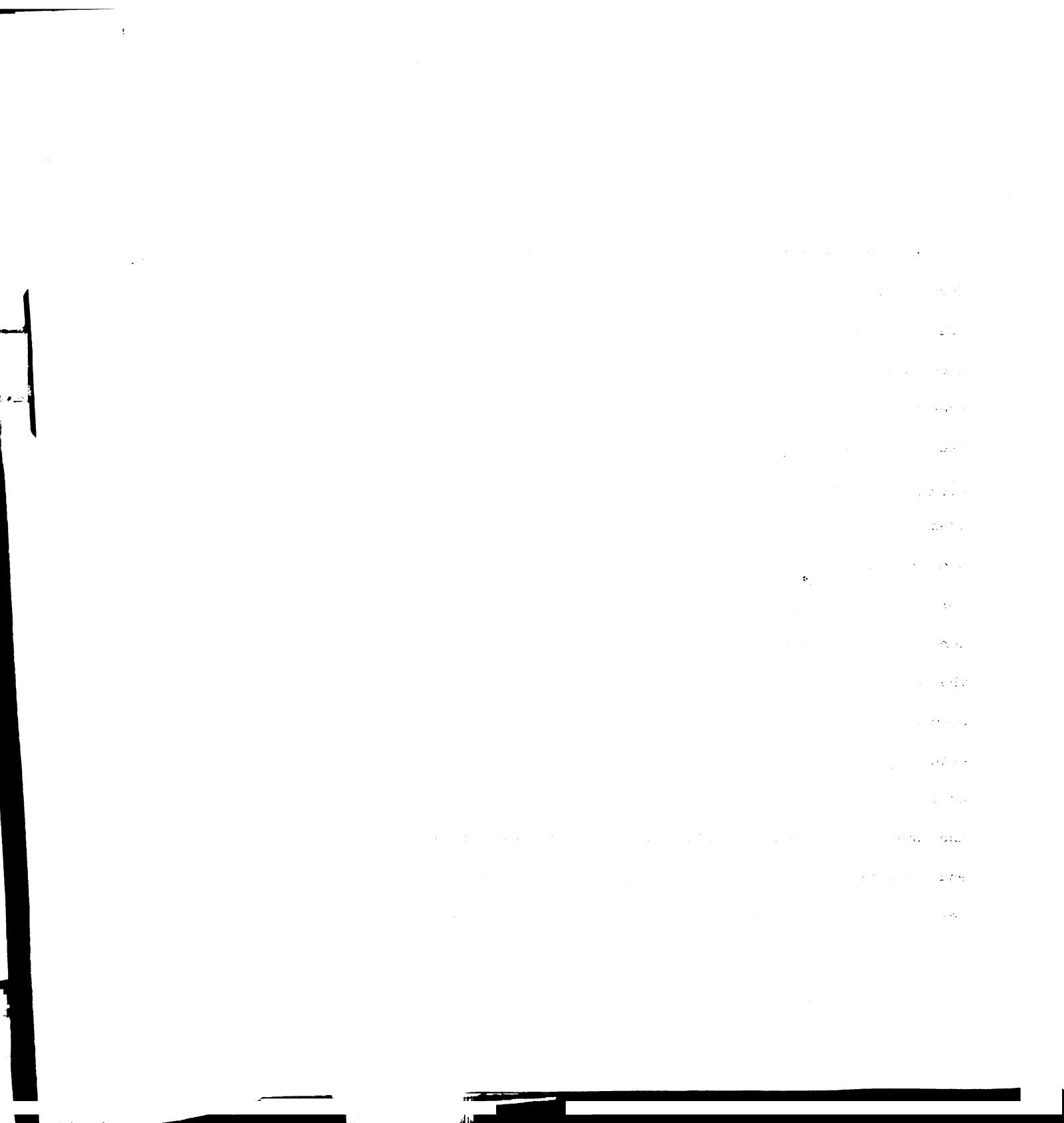
Some of the tenors in mode V include two-note ordines, as in Garlandia's example discussed above. In these cases it is apparent from the context of the other voices that the first of the two must be read as a duplex longa, and many of them are written as such (e.g., Aubrey, I, folio 8^{vo}). The only instances of the breve rest being used in mode V are in tenors which use a mixed mode (Aubrey, I, folio 8^{vo}):



From the notation used in this manuscript it was only a short step to the system of Franco of Cologne, which served as the basis of mensural notation through the sixteenth century. Franco's innovations resolved most of the problems of syllabic notation and systematized the use of ligatures as well, thus theoretically freeing notation from the modal patterns which had been predominant for 150 years. Garlandia's treatise represents an intermediate

stage in that development, and is among the earliest attempts to formalize any kind of non-modal rhythmic notation.

APPENDIX



APPENDIX I

Here are presented transcriptions of examples of the three main forms of thirteenth-century polyphony. First is the organum triplum "Descendit de caelis," from the manuscript Wolfenbüttel 1206 (Helmstedt 1099), folio 7^{vo}-8^{ro}. The greater part of this composition presents few problems of transcription. Modes I, II, and III are used, with fractio modi occasionally appearing through the use of plicae. The difficulties are in the copulae which appear before each change of syllable. The first three of these are relatively brief, whereas the final one is extended. Except for the three-note ligatures in the final copula, currentes are here most satisfactorily rendered by the method of splitting the value of the preceding long. The sequence of ternariae which makes up the second half of the second system of folio 8^{ro} must be interpreted differently, however; each ternaria is equal in value, because there are the same number of ligatures in the two voices. This is in spite of the fact that the same melodic shape is sometimes written in the form of currentes and sometimes not. In this transcription, these ternariae have been read as long, breve, long; the second long is ultra mensuram because



it falls before another long. It also appears likely that equal breves would afford an acceptable solution to this passage.

Another problem is the transcription of the tenor at the word "de." Something approximating the fifth mode seems to be intended here, but some notes must be read as duplices longae or even longer values in order to produce a satisfactory harmonic result. This passage thus falls curiously between the discant and organal styles.

The suspiratio is used here after the initial long, and the divisio syllabarum appears at each change of syllable. These should not be confused with the divisio modorum, which indicates a rest, even though their appearance is identical. No distinction is made between these signs in this manuscript despite the descriptions of the theorists.

The second example is the two-voice conductus "Presul nostri temporis" from the same manuscript (folio 92^{ro}-93^{ro}). This particular piece contains an unusual amount of melismatic writing; each line of the text is set off by melismatic sections, whereas it was more common to include melismata only at the end and perhaps at the beginning of conductus. This transcription follows as much as possible Garlandia's rules for cum littera notation: written longs are transcribed as such, a ligature is given the total value of a long through the principle of equipollentia, and ligatures are considered

imperfect even though most are written with propriety and perfection. Thus, the overall rhythm is that of mode V with frequent fractio; binariae are transcribed long, breve, and ternariae are rendered as equal breves.

The general style of this piece corresponds to that termed "longa-fractio" by Gordon A. Anderson ("The Rhythm of cum littera Sections of Polyphonic Conductus in Mensural Sources," Journal of the American Musicological Society, XXVI, Summer, 1973, pp. 288-304). Anderson defines three other styles: modal-syllabic, in which mode I or II predominates, with very little fractio utilized, and indicated either by the differentiation of longs and breves on the page or simply by the rhythm of the text; longa-syllabic, in which each syllable takes the value of a long, with virtually no use of shorter values; and melismatic-text, in which syllables extend longer than three tempora. Anderson agrees that modal renderings are to be preferred whenever possible, and that the style often changes within a piece, often with deliberate and dramatic purpose.

In several of the melismatic sections of this piece a modal interpretation seems most successful, and so ligatures of identical form are transcribed in varying ways in many instances. Also, the values of rests appear to be variable, with little or no visual differentiation. Principles of consonance and dissonance provided the

basis for these judgements, and it is recognized that this transcription is but one of many possible solutions. The end of the piece is especially curious. As presented here, it is highly unsatisfactory from a harmonic standpoint, but no harmonically satisfactory solution seems to make rhythmic sense. The alternate ending is offered with the recognition that, while it is better for the final three long-values, the preceding beat is still a problem. Other versions are, of course, possible, but have their own serious drawbacks.

The manuscript Wolfenbüttel 677 (Helmstedt 628) contains a three-voice version of this conductus (a top voice has been added to the two given here). This version is essentially the same, except that the final passage is significantly longer; it is thus possible that the two-voice version is incomplete. At any rate, the three-voice version is of no aid in determining the correct reading of the passage in question.

The third example is a motet from the Codex Bamberg, folio 23^{ro}. There are very few problems with the transcription here; in this manuscript the rests always indicate exact durations, and the side-by-side lines of the upper voices are durationally equivalent. It will be noticed that notes written as lozenges are always semibreves, never currentes. The note values used for the other transcriptions have here been doubled for easier reading; it appears to be immaterial

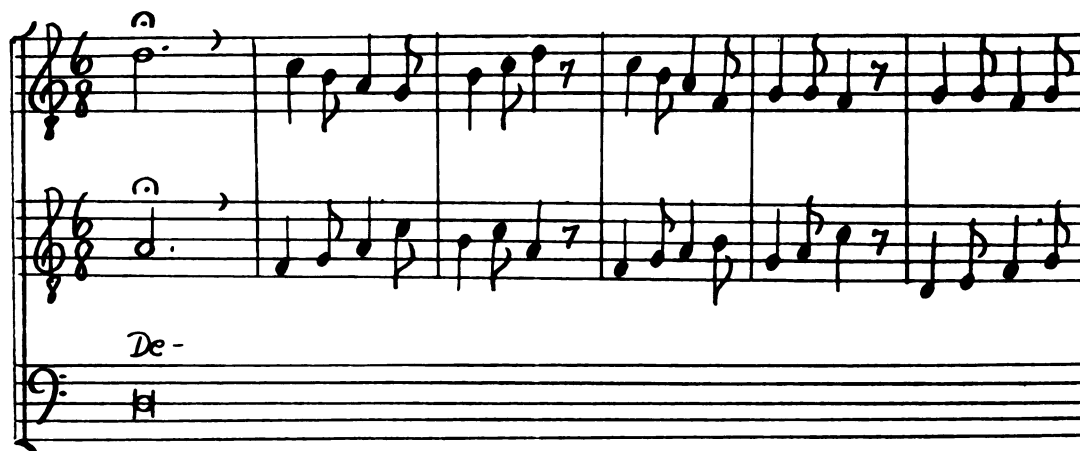
whether $\frac{3}{4}$ or $\frac{6}{4}$ is used, although the tenor utilizes patterns of six tempora, and so the latter has been preferred.

Aubrey's transcriptions of the motets of this manuscript essentially agree with that given here except for one important point. Aubrey transcribes all semibreves as ternary sub-divisions of the breve. It is clear from the Positio that when more than two semibreves replace a breve, the last of these must be longer; this results in the duple division of the breve which is used here.

The tenor voice, as is true in many of the Bamberg motets, uses a repeated rhythmic pattern combining modes I and V. This is one of the cases mentioned earlier in which the breve-rest and longa recta appear in the fifth mode. This tenor contains an exact repetition beginning with the tenth ordo.



Handwritten musical score on ten staves. The notation includes various note values, rests, and bar lines. The text "verba la motu o." is written below the third staff. A large, ornate initial "D" is positioned between the fourth and fifth staves, with the text "Et andr." to its right. The text "be ce" appears at the bottom left and "no." at the bottom right of the page.



De -

This system contains the first three measures of a musical piece. It features two staves in treble clef with a key signature of one flat (B-flat) and a 6/8 time signature. The first measure includes a fermata over a half note. The melody is primarily eighth and sixteenth notes. The bass staff shows a single chord, D2, in the first measure.



This system contains measures 4 through 7. The musical notation continues with similar rhythmic patterns of eighth and sixteenth notes. The bass staff shows a single chord, D2, in the first measure.



soen -

This system contains measures 8 through 11. The notation continues with eighth and sixteenth notes. The bass staff shows a single chord, D2, in the first measure and a single chord, D2, in the eighth measure.

Handwritten musical score for the first system. It consists of two treble staves and one bass staff. The first treble staff contains a melody of eighth and quarter notes, ending with a quarter rest. The second treble staff contains a similar melody, also ending with a quarter rest. The bass staff contains a single note, a half note 'H', which is sustained across the entire system.

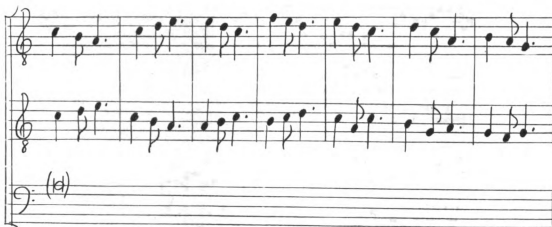
Handwritten musical score for the second system. It consists of two treble staves and one bass staff. The first treble staff contains a melody with eighth notes, quarter notes, and a half note, ending with a quarter rest. The second treble staff contains a similar melody, also ending with a quarter rest. The bass staff contains a single note, a half note 'H', which is sustained across the entire system. The word "dit" is written above the bass staff, indicating a double rest.

Handwritten musical score for the third system. It consists of two treble staves and one bass staff. The first treble staff contains a melody of eighth and quarter notes, ending with a quarter rest. The second treble staff contains a similar melody, also ending with a quarter rest. The bass staff contains a single note, a half note 'H', which is sustained across the entire system.





H



sul nostri tempo
 ri patre presidium emulandi
 decont et uirtutis presidium

Sanguinem patriam
actus augent Hectoris uir
frangit hostium annis dignus nestor
probat pre

tant premium.

Duc syon uber

rimas uelud torrentem lacrimas namq

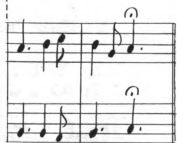
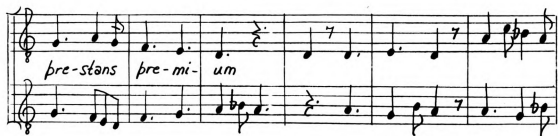


pre-ti-um

San-gui-nem pa-tri-am

ac-tur æu-gent Hec-to-ris vi-res

fran-git hos-ti-um an-nis dig-nur Nes-to-



Pas un maitre l'empier d' i
 chanter un fol leugier son au moue
 nist qui se uantot quel ont geu
 tout nist enuere les dont bras l'ami e
 il se uantot de folie car ces amours
 est melleme mais cecet plus loia
 ment que nist car quant lete di
 me m'ammure ne demant plus.

Bele calur par maitu se le
 nist

Pe bergier li guesmuse lai
 teroi de ce que li bone
 me at enner moi qu'onques lo
 auca ne toi ne tromu la ou ie lai
 de l'ine a toi qui de rien sei
 me n'as amours loir can voi
 aduer toi en l'aimoi nist en
 l'aimoi et bras m'ami e.

Bon paro le la voi la
 tot nist

Par un ma-ti-net Pau-trier O- i chan-ter un
He, ber-giers, si grant en-ri-e J'ai de toi

fol ber-gier S'en sui mout mus, Qui se van toît qu'il
De ce que si bu-ne vie As en-vers moi,

out gè-u-tous nus En-tre les dous bràs s'a-
Qu'on-ques lo-iàu-tei-ne foi Tro-ver n'i poi

mi- e; Il se van- toit de fo- li- e,
 La ou je l'ai de- ser- vi- e, Et toi,

Car tes a- mours est vi- lein- ne; Mais j'ains cer- tes plus
 Qui de rien ser- vi- c N'as a- mours, jo- ir t'an

Lo- iau- ment que nus, Car quant be- le da- me
 voi Et van- ter toi En l'au- noi: "Jui en l'ou

Handwritten musical score for three staves. The first staff is in treble clef and contains the lyrics "m'aim-me, Je ne de-mout plus." The second staff is also in treble clef and contains the lyrics "noi Es bras m'a-mi - e." The third staff is in bass clef and contains no lyrics. The music is written in a simple, handwritten style with notes, rests, and bar lines.

m'aim-me, Je ne de-mout plus.

noi Es bras m'a-mi - e."

APPENDIX II

GLOSSARY

1. Brevis (pl. breves). The shorter of the two basic rhythmic values of modal music. Its normal form, the brevis recta or "correct breve," was half of a longa recta and contained one tempus, the theoretical rhythmic unit against which all durations were measured. In some cases, e.g., in the third and fourth modes, a brevis could contain two tempora. Garlandia does not specifically mention this, but it was called by other theorists brevis altera ("altered breve").
2. Conductus. A polyphonic piece utilizing no plainchant and set to a rhymed, metrical Latin text which was sacred or semi-sacred. The setting was usually more or less syllabic, with occasional melismata at beginnings or ends of lines.
3. Copula. A brief section in organum occurring at the end of a main section, usually followed by a change from organal to discant style or vice versa. The copula generally utilized non-modal rhythms, and was always melismatic.

4. Cum littera and sine littera. "With text" and "without text," and thus syllabic and melismatic, respectively. These two styles required somewhat separate notational rules because of the fact that more than one syllable could not be set to a single ligature.

Garlandia's system provides for the virtually exclusive use of imperfect ligatures in cum littera notation.

5. Discant. This term refers to polyphony in which all voices are measured, as opposed to the organal style, in which the tenor consists of unmeasured notes whose durations are determined by simple alignment in the score.

6. Divisio modorum (pl. divisiones). A vertical line indicating a rest at the end of a phrase (ordo) in modal passages. In some manuscripts its value is determined according to context; in others, its length indicates its value.

7. Divisio syllabarum. A vertical line, usually spanning less than one space on the staff, indicating a change of syllable and thus aiding the coordination of the voices. This was necessitated by the practice of writing the text only under the lowest voice of the score.

8. Equipollentia. The principle of equivalence according to which the rhythmic values of ligatures were determined, mainly in syllabic music. The total duration of a four- or five-note ligature was thus equated with that of a three-note ligature. This term could also refer to the correspondence of rhythmic values between voices in modal contexts.

9. Extensio modi. A term coined by Willi Apel for the process by which longer-than-normal values were introduced into modal passages. Though it figures in a few of his examples, it is not discussed by Garlandia.

10. Figure. Garlandia's generic term for any single note or ligature.

11. Finis punctorum (pl. fines). A vertical line spanning all the lines and spaces of the staff, used at the ends of pieces and of sections. Its modern equivalent is the double bar.

12. Flaiolis. Garlandia's term for hocket, not found in other sources.

13. Fractio modi. The process of introducing smaller note-values into modal passages. Though Garlandia does not explain this device, it figures in several of his examples.

14. Hocket. A technique whereby one voice has a note and another voice has a rest, and vice versa, in alternating fashion. The term is used both of the technique and of pieces which use it extensively.

15. Ligature. A term meaning "tied together," used for any group of connected notes. A two-note ligature is a binaria (pl. binariae), one with three notes is a ternaria, and so on (quaternaria, quinternaria).

16. Longa (pl. longae). The longer of the two basic note-values of modal music. The longa recta ("correct long") contained two tempora, and was thus twice the value of the brevis recta. The longa could also contained three tempora, and was then called ultra mensuram ("beyond measurement"). The duplex longa (pl. duplices longae) was most often equivalent to two longae ultra mensuram (six tempora), but could, according to context, be an indeterminate duration of more than six tempora.

17. Medium. The term used by Garlandia for the classification of intervals which are neither the most nor the least consonant or dissonant. The perfect fifth and fourth are the medium consonances, and the whole-tone and minor sixth are the medium dissonances.

18. Modus (pl. modi). For Garlandia, this term is often equivalent to "rhythm." The modern confusion resulting from multiple uses of the word "mode" is avoided by calling tonalities species. Garlandia subdivides modus in two ways. First there is "common mode," or rhythm which does not conform to regular repeated patterns; and then there is "proper mode," i.e., the system of six standard rhythmic patterns. Proper mode is then divided into modus rectus, which uses only longae rectae and breves rectae; and modus per ultra mensuram (or, occasionally, modus non rectus), which uses other values. Thus, modes I, II, and VI are modi recti, and II, IV, and V are modi per ultra mensuram.

19. Opposita proprietas. Literally, "opposite propriety." This is a characteristic of a ligature whose first notes are to be interpreted as semibreves, and it is indicated by an ascending stem on the left of the ligature's first note.



20. Ordo (pl. ordines). Literally, "row," "line," or "order." Its most common meaning, which is not stressed by Garlandia, is a phrase in modal music, containing a certain number of pattern-repetitions and ending with a rest. In the treatise of Anonymous IV, for example, the phrase in which the modal pattern is stated once is termed "first ordo," one in which the pattern appears twice is called "second ordo," and so on. Garlandia also uses the term to indicate the rhythmic relationship of simultaneous voices. When two voices are written so that the longs coincide, they are said to be "in the same ordo." When the longs fall in different rhythmic positions, the two voices are "in opposite ordines."

21. Organum (pl. organa). The generic term for polyphony, also used to indicate the style of writing over an unmeasured tenor, as opposed to discant style, in which all voices are metered. Garlandia also mentions the term organum purum, used for the earlier two-voice writing of the Leonin style, a type predating the systematization of the six modes, but in which mensural notation began its development. Organum duplum, triplum, and quadruplum refer to two-, three-, and four-voice writing, respectively.

22. Perfectus and imperfectus. Of modes: A mode was "perfect" when an ordo ended with the duration with which it began, and it



was "imperfect" when the first and last durations of an ordo were different. In modes V and VI, however, these terms referred to the number of notes in an ordo. Of ligatures: ligatures whose final two notes were written according to the standard forms of plainchant notation were considered "perfect," and ended breve, long (except in a few modal contexts). This rhythmic interpretation could be changed by altering the form of the ligatures, thus rendering them "imperfect." Sometimes the noun perfectio was used rather than the adjective (cum perfectione and sine perfectione). Shortly after Garlandia's time, single notes, i.e., the long of three tempora and the breve which was divisible into three semibreves, were also called "perfect." Of intervals: Garlandia's classification of the most consonant and most dissonant intervals. The perfect consonances are the unison and octave, and the perfect dissonances are the tritone, minor second, and major seventh. Likewise, "imperfect" was said of the least consonant and least dissonant intervals in each class. The imperfect consonances are the major and minor thirds, and the imperfect dissonances are the minor seventh and the major sixth.

23. Plica (pl. plicae). Literally, "fold," but with the figurative meaning of "hint," as in "implication." This is a stem added to the right of a note or ligature. It calls for the performance of an

unwritten pitch a second above or below the pitch of the note to which it is attached; this is determined by the direction of the stem. The implied pitch (plica-tone) assumes a portion of the rhythmic value of the written pitch (plica-note).

24. Proprietas. "Propriety." Ligatures cum proprietate ("with propriety") are those whose first note is written in the standard form for plainchant notation. This requires that the first pitch is a breve in a binaria, and that the first two pitches are long, breve in a ternaria. In Garlandia's system, writing a ligature sine proprietate reverses the rhythmic values of all the notes of the ligature.

25. Punctus (pl. puncti). Term used by Garlandia to mean a note, a phrase, or an entire section.

26. Quadruplum (pl. quadrupla). Either a piece written in four voices or the fourth (top) voice itself.

27. Rondellus (pl. rondelli). A genre in which a phrase is passed from voice to voice, resulting in a type of imitation, usually at the unison. The voice(s) accompanying the repeated material were usually varied, and so this was distinct from the device Stimmtausch,

in which two voices were exchanged intact. This term was also occasionally used to mean a secular rondeau, sometimes with Latin text.

28. Semibrevis (pl. semibreves). In Garlandia's system, any subdivision of the breve, usually one-half. Like the long of three tempora, the semibreve was considered ultra mensuram.

29. Suspiratio (pl. suspirationes). "Sigh" or "breath." A vertical line similar to a short rest, indicating a breath for the singers, but having no definite duration.

30. Synemmenon. Literally, "hook." The Greek term for the conjunct joining of hexachords, mainly to allow for the introduction of accidentals or the extension of melodic range beyond a sixth.

31. Tempus (pl. tempora). A theoretical durational unit against which notes and rests were measured. There is some question as to whether this can be considered analogous to the modern concept of beat or pulse.

32. Triplum (pl. tripla). Term for three-voice polyphony, also used of the third voice.

1. The first part of the report is a general statement of the purpose of the study.

2. The second part of the report is a description of the methods used in the study.

3. The third part of the report is a description of the results of the study.

17

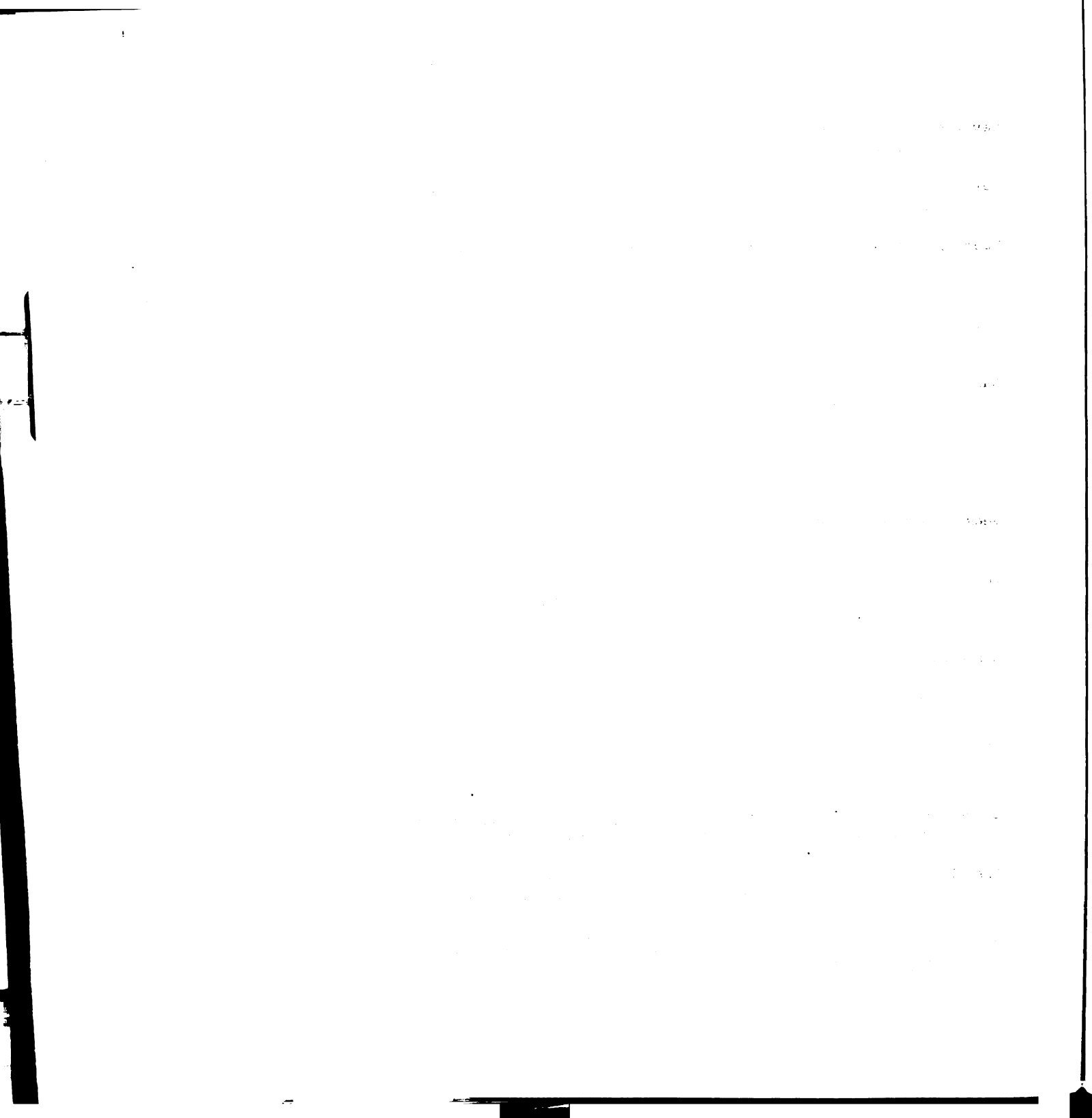
33. Ultra mensuram. "Beyond measurement," a term for note-values longer than two tempora or shorter than one tempus, also used in reference to the modes using these values, i.e., modes III, IV, and V.

BIBLIOGRAPHY

BIBLIOGRAPHY

- Anderson, Gordon A. "Motets of the Thirteenth-Century Manuscript La Clayette: A Stylistic Study of the Repertory," Musica Disciplina, XXVIII, 1974, pp. 5-37.
- _____. "Motets of the Thirteenth-Century Manuscript La Clayette: The Repertory and its Historical Significance," Musica Disciplina, XXVII, 1973, pp. 11-40.
- _____. "The Rhythm of cum littera Sections of Polyphonic Conductus in Mensural Sources," Journal of the American Musicological Society, XXVI, 2, 1973, pp. 288-304.
- _____. "A Troped Offertorium-Conductus of the Thirteenth Century," Journal of the American Musicological Society, XXIV, 1, 1971, pp. 96-100.
- Apel, Willi. The Notation of Polyphonic Music, 900-1600, fifth ed., The Mediaeval Academy of America, Cambridge, Mass., 1953.
- Aubrey, Pierre. Cent Motets du XIII^e Siècle, 3 vols., A. Rouart, Le Rolle, & Co., Paris, 1908.
- Baldwin, Charles Sears. Ancient Rhetoric and Poetic, Peter Smith, Gloucester, Mass., 1959.
- _____. Medieval Rhetoric and Poetic to 1400, Peter Smith, Gloucester, Mass., 1959.
- Caplan, Harry. "Classical Rhetoric and the Medieval Theory of Preaching," Historical Studies of Rhetoric and Rhetoricians, Raymond F. Howes, ed., Cornell University Press, Ithaca, N.Y., 1961, pp. 67-121.
- Clark, Donald Leman. Rhetoric and Poetry in the Renaissance, Russell & Russell, New York, 1963, pp. 45-52.

- Cousse-maker, Charles Edmond Henri. Scriptorum de musica medii aevi, Vol. I.
- Crocker, Richard L. "Discant, Counterpoint, and Harmony," Journal of the American Musicological Society, XV, 1, 1962, pp. 1-21.
- Cserba, Simon M. Ed., Hieronymus de Moravia, O.P.: Tractatus de Musica, Verlag Friedrich Pustet, Regensburg, 1935, pp. 194-229.
- Dalglish, William E. "The Hocket in Medieval Polyphony," Musical Quarterly, LV, 3, 1969, pp. 344-362.
- Dittmer, Luther. Trans., Anonymous IV, Institute of Medieval Music, Brooklyn, N.Y., 1959.
- _____. "The Ligatures of the Montpellier Manuscript," Musica Disciplina, IX, 1955, pp. 35-55.
- Falck, Robert. "Rondellus, Canon, and Related Types Before 1300," Journal of the American Musicological Society, XXV, 1, 1972, pp. 38-57.
- Fox, John. The Rhetorical Tradition in French Literature of the Later Middle Ages, University of Exeter, 1959.
- Gallo, F. Alberto. "Tra Giovanni di Garlandia e Filippo da Vitry," Musica Disciplina, XXIII, 1969, pp. 13-20.
- Huff, Jay A. Trans., Walter Odington: De Speculatione musicae, Part VI, American Institute of Musicology, 1973.
- Husmann, Heinrich. "The Origin and Destination of the Magnus Liber Organi," Musical Quarterly, XLIX, 3, 1963, pp. 311-330.
- Karp, Theodore. "Towards a Critical Edition of Notre Dame Organa Dupla," Musical Quarterly, LII, 3, 1966, pp. 350-367.
- Le Clerc, Victor. "Jean de Garlande, Poète et Grammairien," Histoire Litteraire de la France, Vol. VIII, Paris, 1868, pp. 83-98.



- Levy, Kenneth. "A Dominican Organum Duplum," Journal of the American Musicological Society, XXVII, 2, 1974, pp. 183-211.
- Murphy, James J. Rhetoric in the Middle Ages, University of California Press, Berkeley, 1974.
- Paetow, Louis J. The Life and Works of Johannes de Garlandia, as Vol. IV, No. 2 of Memoirs of the University of California, 1927.
- Parrish, Carl. The Notation of Medieval Music, W. W. Norton & Co., New York, 1957.
- Rasch, Rudolph A. Johannes de Garlandia, Institute of Medieval Music, Brooklyn, N. Y., 1969.
- Reaney, Gilbert. "The Question of Authorship in the Medieval Treatises on Music," Musica Disciplina, XVIII, 1964, pp. 7-17.
- Reese, Gustave. Music in the Middle Ages, W. W. Norton & Co., New York, 1940.
- Reimer, Erich. Johannes de Garlandia: De musica mensurabili, Vols. 10 and 11 of Beihefte zum Archiv für Musikwissenschaft, Wiesbaden, 1972.
- Sanders, Ernest H. "Duple Rhythm and Alternate Third Mode in the Thirteenth Century," Journal of the American Musicological Society, XV, 3, 1962, pp. 249-291.
- _____. "Peripheral Polyphony of the Thirteenth Century," Journal of the American Musicological Society, XVII, 3, 1964, pp. 261-287.
- Sandys, Sir John Edwin. A History of Classical Scholarship, Vol. 1, Hafner Publishing Co., New York, 1958, pp. 549-551.
- Tischler, Hans. "A Propos a Critical Edition of the Parisian Organa Dupla," Acta Musicologica, XL, 1968, pp. 28-43.
- _____. "A Propos of a Newly Discovered Organum," Journal of the American Musicological Society, XXVIII, 3, 1975, pp. 515-526.

_____. "A Propos the Notation of the Parisian Organa," Journal of the American Musicological Society, XIV, 1, 1961, pp. 1-8.

_____. "A Three-Part Rondellus in Trent MS 87," Journal of the American Musicological Society, XXIV, 3, 1971, pp. 449-457.

Waite, William G. The Rhythm of Twelfth-Century Polyphony, Yale University Press, New Haven, 1954.

Wright, Thomas. Ed., "The Dictionarius of Jean de Garlande," A Volume of Vocabularies, London, 1857, pp. 120-138.

MICHIGAN STATE UNIV. LIBRARIES



31293103402396