

# Musica figurata 1

## 8. Seminar

Institut für Alte Musik  
Ruth Bruckner - WS 2024/25

# LV completion

Immanent examination:

75% attendance

participation in the lessons

project

if not enough attendance: dispensation examination

special agreements possible

# Project

Units for projects:

5th-11th century

Early polyphony

Notre Dame (1160-1250)

Ars Antiqua (1250-1320)

Ars Nova (1320-1390)

Trecento (14th century)

Ars subtilior (1377-1420)

# Project

What exactly is it?

Concert programme/CD  
programme/lecture/etc.

Practical relevance: How will you be able  
to use the music later?

# Project

Example concert programme

Idea: topic/theme/era

Repertoire: what is available? Library search

Instrumentation: who am I playing with (can be fictitious)? What instruments were there in the period?

Audience: who is listening? How can it be interesting?

Work selection: list of pieces - compiled in the library from relevant sources

Information: introductory text or verbal introduction

One work presented as an example:  
instrumentation/development/thoughts on notation, tuning system,  
etc.

# Project

Duration:

10-15 minutes

can also be in a team

only orally or also with playing

early instruments are also available for string players in case of playing

- discuss and refine the project together

# Follow-up discussion

What was covered last week?

# Modal notation

Modal notation described by Johannes de Garlandia and Anonymous IV

Construct of a small circle of scholars in Paris

Agreement on certain signs to represent a rhythm. Not everything could be represented rhythmically, only a handful of rhythms



# Modal notation

Values: 3 = perfect, 2 = imperfect

values (still without a sign):

Brevis (short)

Longa (long) two breves (imperfect)

Longior Longa (longer) three breves (perfect)

Duplex Longa/Maxima (the longest) two longes (imperfect)

# Modal notation

Signs:

Simplex: single note

Plica: main note + ornament

Binaria: group of two

Binaria plica: group of two + ornament

Ternaria: group of three

and so on (Quarternaria, Quinternaria, Sexternaria, Septernaria...)

Currentes: the 'running notes'

There was a problem: repeated notes could not be written as a ligature. Solutions come from the context.

# Modal notation

Modus	Rhythm	Grouping of ligatures
1	L B L B L B L B	3 2 2 2 2 ...
2	B L B L B L B L	2 2 2 2 ... 3
3	L I B L L I B L	1 3 3 3 ...
4	B L L I B L L I	3 3 3 3 ... 1
5	L I L I L I L I	1 1 1 1 1 ...
6	B B B B B B	3 3 3 3 3 ...


# Modal notation



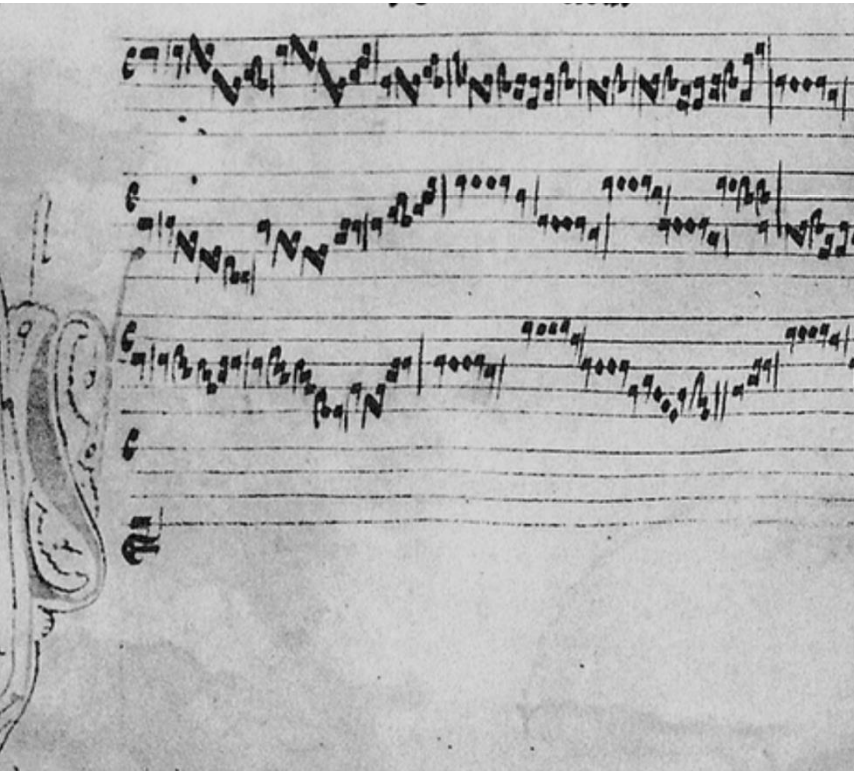
# Modal notation

4. Modus: 

oder: 

6. Modus: 

# Modal notation



Sound sample:

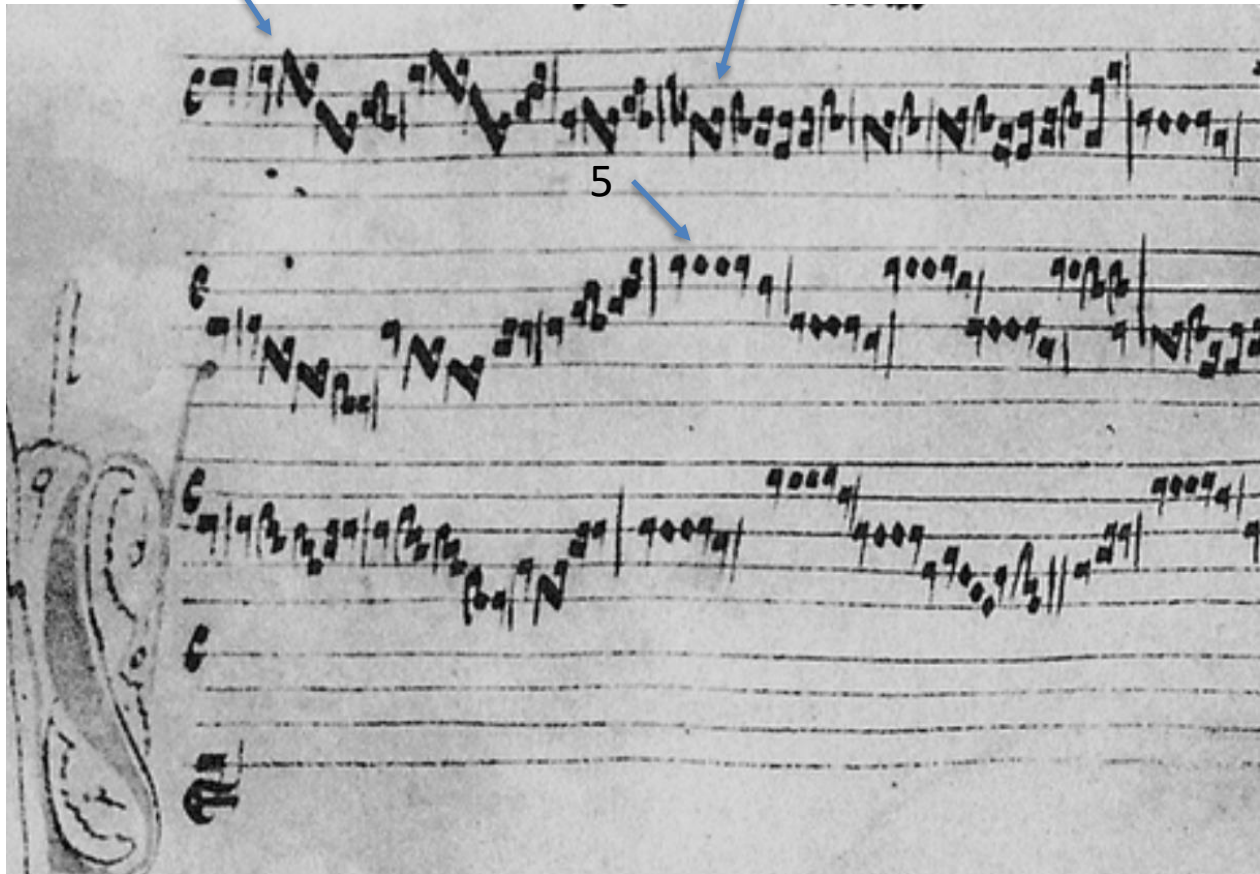
Perotinus Magnus (ca.  
1200)

Sederunt principes



# Modal notation

3      L I B L L I B L      1 3 3 3 ...      1



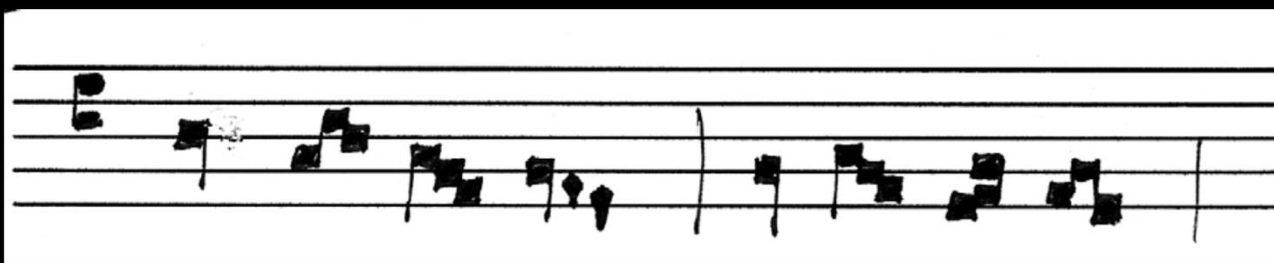
# Modal notation

## Perotinus: Organum quadruplum „Sederunt principes“ Kritische Übertragung

The image shows a musical score for a quadruple organum. It consists of four staves. The top staff is the upper voice, followed by three lower voices. The notation is in a medieval style, using square neumes on a four-line staff. The key signature has one flat (B-flat). The time signature is common time (C). The score is divided into two systems. The first system ends at measure 10, and the second system starts at measure 11 and ends at measure 20. A large letter 'A' is placed above the first staff at the beginning of the second system. The word 'Se-' is written below the first staff at the beginning of the first system. The score ends with a double bar line and a wavy line indicating the end of the piece.



# Modal notation



# Notre Dame School

## Clausula

- for some organum parts, passages were selected from Gregorian chant and set in two voices; zoom-in on a passage of chant, arranged rhythmically and in several voices.
- first a passage of chant is given rhythm and then a voice is added to it; this concerns a melisma or a syllable from the chant;
- becomes a field of experimentation for the Notre Dame period
- space for the motet to develop

# Notre Dame School

## Motet

- The first motets appear in the Notre Dame repertoire (traces of them can be found in the Aquitanian repertoire: *Stirps iesse*)
- The motet is created by adding a text to the rhythmic and melismatic upper voice (*vox organalis*) of a *clausula*
- has two texts: a chorale text in the lower voice and a new text in the upper voice
- Modal notation can only be represented by ligatures, however, which is why there are rhythmic problems with the text of the melodies.

# Notre Dame Schule

## Conductus

- = a song that accompanies a liturgical action
- newly composed Latin-language poetry (1-4 voices), usually with serious text
- began during the Aquitanian period around 1100 and flourished from the mid-12th century
- replaced by the motet in the second half of the 13th century
- usually written note against note
- not yet notated rhythmically
- (Andersen's edition indicates rhythms in part, but they are questionable)

# Ars antiqua

1250 - 1320

The term Ars Antiqua was coined by Philippe de Vitry to distinguish it from the Ars nova (1320 treatise: 'Ars nov').

# Ars antiqua

What changes?

Rhythmic subtleties require new notation:  
mensural notation

Franco of Cologne: *Ars cantus mensurabilis*

Notation is no longer in score form, but on individual sheets, because music no longer needs to be visually coordinated.

# Ars antiqua

## Composers:

Petrus de Cruce (Pierre de la Croix)

Jehan de Lescurriel

Adam de la Halle

## Theoreticians:

Johannes de Grocheio

Anonymous IV

Jacobus von Lüttich

Franko von Köln

# Ars antiqua

Johannes de Garlandia

active c. 1270-1320, was a lecturer at the University of Paris

Treatises:

1) De plana musica (= chorale)

contains the basics of music theory; division into musica mundana, humana, instrumentalis; explanation of keys, scales, Guidonian hand, Pythagoras,

2) De mensurabilis musica

the first treatise to deal consistently with rhythmic music; describes modes and rhythms of the Notre Dame era (increasingly polyphonic, monophonic music is not notated rhythmically); all later developments are based on this foundation, including our own notation

describes the various genres and compositional techniques of early Ars Antiqua



# Ars antiqua

Petrus de Cruce

active around 1290; composer and theorist, one of the most important musicians of the late 13th century. He was highly praised by Jacobus de Liege and Guy de Saint Denis.

Some compositions are included in the Codex Montpellier and others, but are attributed to him later, not certain.

# Ars antiqua

Franco of Cologne

Franconian mensural notation, because he describes it

8 manuscripts preserved

Treatise: *Ars cantus mensurabilis*

Innovation: note values are represented by single signs

# Ars antiqua

Hieronymus de Moravia

Theorist, died after 1271, apparently active in Paris

Very detailed treatise, a lot of mathematics at the beginning, only towards the end about practical music; monophony and polyphony

He gives 3 typical fiddle tunings and a rebec tuning and describes the ornamentation practices of the singers of his time

However, ornaments mainly revolve around Gregorian chant

Flos harmonicus: rapid vibrato from the main note upwards

Flores longi: semitone vibrato upwards, very slow, only on the last and penultimate syllable

Flores aperti: whole-tone vibrato

# Ars antiqua

Jacobus de Liège

c.1260 - after 1330

Speculum musicae, the most comprehensive treatise on music theory,

polemicises against Ars Nova

# Ars antiqua

Johannes de Grocheio

active in Paris around 1300

gives practical information in his treatise *De musica*, paints a picture of musical life in Paris at the time, also describes secular music genres: Estampie, Chanson de geste (heroic epics), Trouvères; mentions song genres, but also instrumental music

Writes: People become better through engagement with music; Albert Magnus writes before him: 'Singing, playing the fiddle, and reciting epics are activities that a man who bears responsibility for a society should occupy himself with'

Grocheio provides a lot of information on the practice of medieval music (including instrumental music)

# Ars antiqua

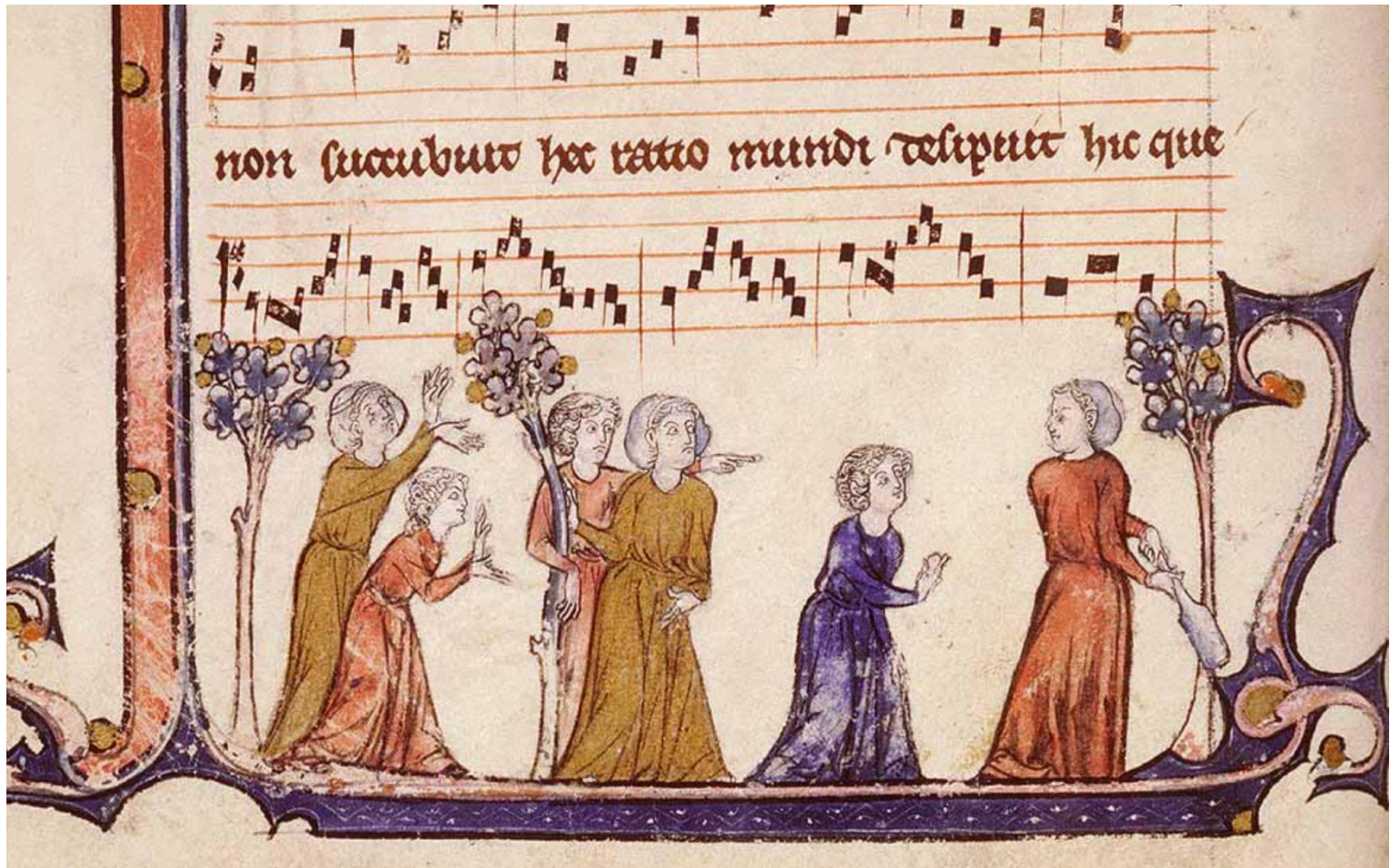
## Montpellier Codex

<https://arca.irht.cnrs.fr/ark:/63955/md752f75rt7v>

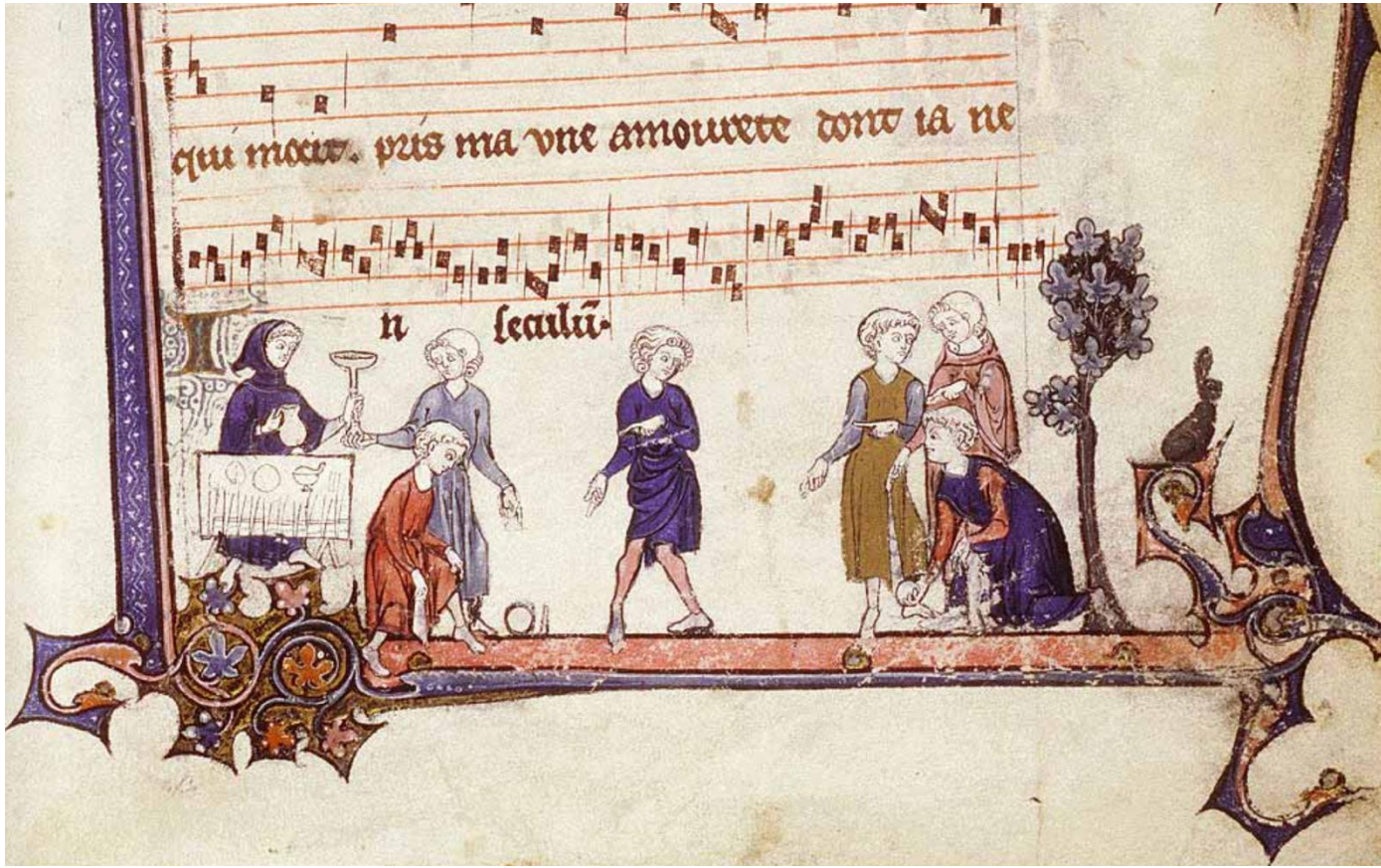
### Transcriptions:

- Fascicles 1 und 2: <https://books.google.de/books?id=n5o3tNj4ymgC>
- Fascicles 3,4,5: <https://books.google.de/books?id=xvtiqUUy2gwC>
- Fascicles 6,7,8 [https://books.google.de/books?id=pxTDi\\_tZHEgC](https://books.google.de/books?id=pxTDi_tZHEgC)
- Text und Translation: <https://books.google.de/books?id=efhyxmlv1UC>

# Ars antiqua



# Ars antiqua





# Ars antiqua

Bamberg Codex

[http://digital.bib-bvb.de/view/bvb\\_mets/viewer.0.6.5.jsp?folder\\_id=0&dvs=1731530640141~818&pid=5399204&locale=de&usePid1=true&usePid2=true](http://digital.bib-bvb.de/view/bvb_mets/viewer.0.6.5.jsp?folder_id=0&dvs=1731530640141~818&pid=5399204&locale=de&usePid1=true&usePid2=true)

e ne chant pas par remuonerie ne

par iolere car trop mont auis loqueurs

ne t'ai ne couis iours lonement endure

nonques ne mi vi damours seruir l'aise

si le ma ce met auis trop mal guerredon

ne car nul secours ne nul confort n'ai en

ce que m'a a ma bone e dame

en cui sont nuz iours que mi pen

alent mest puis de

chancer pour celi que i'ai tant a

mee dieus tant mi plait a remu

ner son cors geus et la face coulou

ee que il ne

la puis oubher nuit ne iour

mais sans laire ma comuente

et le penser

**O**pera o cur

m nes

# Ars antiqua

Codex Las Huelgas

Codex Turin Biblioteca Reale, Vari 421 [Tu]

# Ars antiqua

Motet: the most important genre between 1250 and 1400 - an art form for the educated classes, separate from the liturgy

Created by setting new words to the upper voices

Duplum = voice above the tenor is then called motetus, from mot = French word

Third and fourth voices are called triplum and quadruplum

# Ars antiqua

Tenor has few long notes; only a word or a phrase

can also be performed instrumentally

The cantus firmus is usually taken from the Magnus liber organi, but later other liturgical melodies are also used, as well as secular melodies or newly invented ones.

# Ars antiqua

Texting:

upper voices often not only have different text but also a different language and completely different content.

Initially, the upper voices comment on the text of the tenor, but later they do not.

# Ars antiqua

high degree of intertextuality

pieces in different sources with different texts: you just take a line and use it for a new piece, or you just take text, or just melody

there is a lot of tinkering, there are whole families of pieces (there are studies on motet families/family trees, e.g. researched by Friedrich Ludwig)

# Ars antiqua

## Notation

Text setting requires a different notation, as no ligatures are used when there is text. Ligatures are only used for multiple notes per syllable

Single notes should be given a specific value

Franco von Köln system is catching on



# Ars antiqua

## Notation

Three-part time remains the standard

However, the exact length of a note can still only be determined from the context. This is where the difference arises as to whether a note should be two or three beats long.

# Ars antiqua

New idea:

an additional symbol above the note is a shortening.

An additional symbol below the note is an extension.

# Ars antiqua

Simplex



relativ "kleine"  
Simplex – jetzt:  
**BREVIS**



relativ "lange"  
Simplex – jetzt:  
**LONGA**



besonders schnell  
(kürzer als eine Brevis):  
**SEMIBREVEN**



((meistens))

# Ars antiqua

Long and Brevis can be of different lengths,  
depending on where they are placed:  
imperfection and alteration

Longior longa = 3 times

Longa recta = 2 times

Brevis (normal) = 1 time

Brevis altera = 2 times

# Ars antiqua

## Garlandia Notation

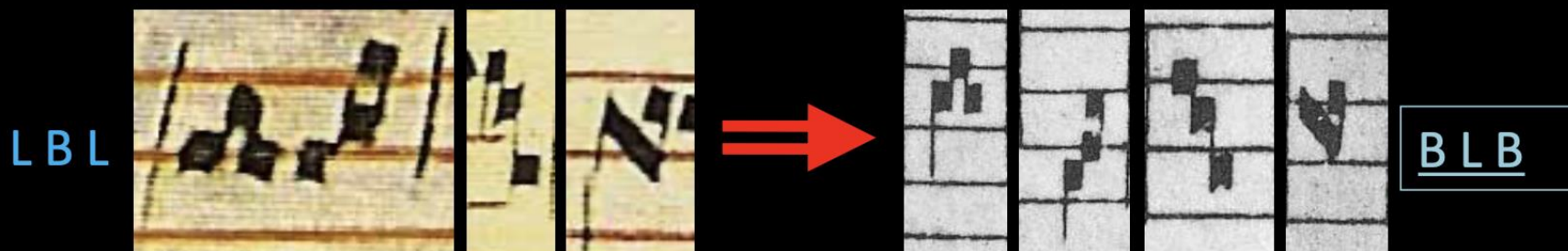
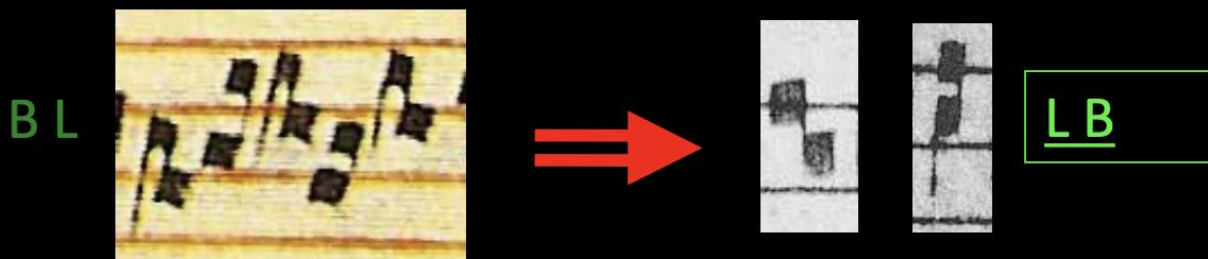
Based on modal notation

Standard ligature forms are read like the first mode: L B



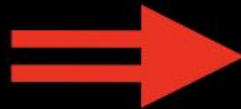
- Standardisierte Ligaturgrundformen werden immer wie im normalen ersten Modus interpretiert.
- **Eine Abweichung von der Standardform (durch die Hinzufügung oder Wegnahme eines Strichs) kehrt den Rhythmus der gesamten Ligatur um.**

(Daraus ergibt sich, daß es bei Garlandia praktisch keine Ligaturen mehr gibt, die länger als eine Ternaria sind – nur Binaria und Ternaria sind eindeutig definiert.)



	Quadrat-N.
Punctum	■
Virga	└
Podatus (Pes)	▢
Clivis (Flexa)	└┐
Scandicus	└┐└
Climacus	└┐└┐
Torculus	└┐└┐└
Porrectus	└┐└┐└┐

LBL



BBB

LBL



BBB



# Ars antiqua

Frankonian mensural notation,

like Garlandia, starts from the first mode and defines deviations from the normal ligature form

# Franco von Köln

- Standardisierte Ligaturgrundformen werden immer wie im normalen, ersten Modus interpretiert.
- Der erste Ton jeder Ligatur ist rhythmisch definiert über die Bewegungsrichtung (aufsteigende oder absteigende melodische Richtung) und über den Anstrich: mit Hals oder ohne Hals. Die Deutung dieser Formen geht immer als Abweichung von der Ligaturgrundform aus.



B L ==>



B ...



B ...

Ist die Bewegungsrichtung nach dem 1. Ton aufsteigend, dann ist die **Grundform: ohne Hals = Brevis**



L ...



L ...

Ist die Bewegungsrichtung nach dem 1. Ton aufsteigend, dann ist die **veränderte Form: mit Hals = Longa**



B L ==>



B ...



B ...

Ist die Bewegungsrichtung nach dem 1. Ton absteigend, dann ist die **Grundform**: mit Hals = Brevis



L ...



L ...

Ist die Bewegungsrichtung nach dem 1. Ton absteigend, dann ist die **veränderte Form**: ohne Hals = Longa



B L ==>



... L



... L

Ist die Bewegungsrichtung zum letzten Ton aufsteigend, dann ist die **Grundform**: nach links gewendet = Longa



... B



... B

Ist die Bewegungsrichtung zum letzten Ton aufsteigend, dann ist die **veränderte Form**: nach rechts gewendet = Brevis



B L ==>

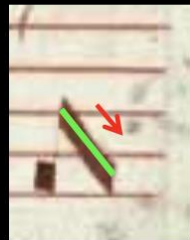


... L

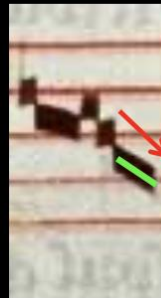


... L

Ist die Bewegungsrichtung zum letzten Ton absteigend, dann ist die **Grundform**: **quadratisch = Longa**



... B



... B

Ist die Bewegungsrichtung zum letzten Ton absteigend, dann ist die **veränderte Form**: **oblique (schräg) = Brevis**

# Uri von Smila

B B



L L



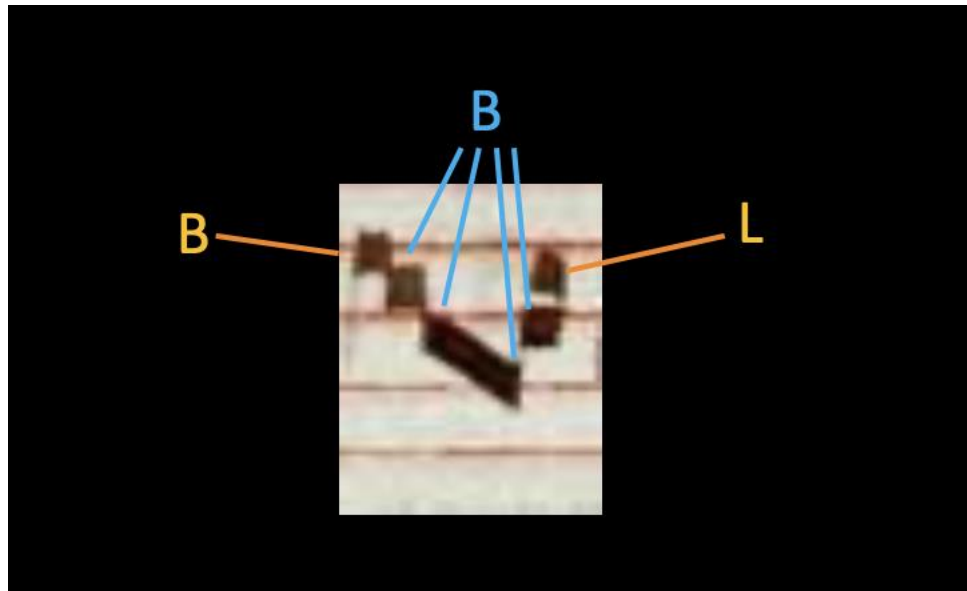
leichter zu merken.

(„smilantische“ Grundformen)

# Ars antiqua

Franko of Cologne:

all notes in the middle are breves



# Ars antiqua

Franko of Cologne:

A stroke at the beginning of the ligature upwards makes the first two semibreves

## Ausnahmen:

- Ein Strich nach oben am Anfang einer Ligatur beeinflusst den Rhythmus der ersten beiden Töne dieser Ligatur: sie werden zu Semibreven (c.o.p. – siehe S. 2-3).



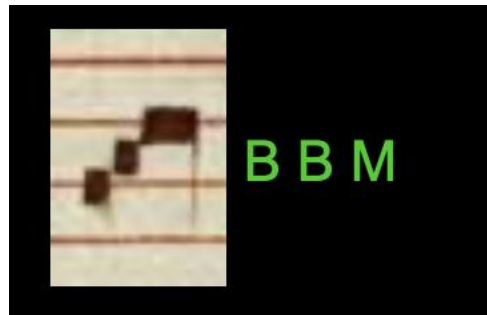
SSBBBB



# Ars antiqua

Franko from Cologne:

Maximae are very broad notes



# Ars antiqua

Franko von Köln:

Breaks



**Semibrevispause**  
(Strich ist kleiner als ein Zwischenraum)

**Brevispause**  
(Strich geht durch einen Zwischenraum)

**Longapause (3zeitig)**  
(Strich geht durch 3 Zwischenräume)

Die 2zeitige Longapause geht durch 2 Zwischenräume (in diesem Beispiel nicht zu sehen)

# Ars antiqua

Franko of Cologne

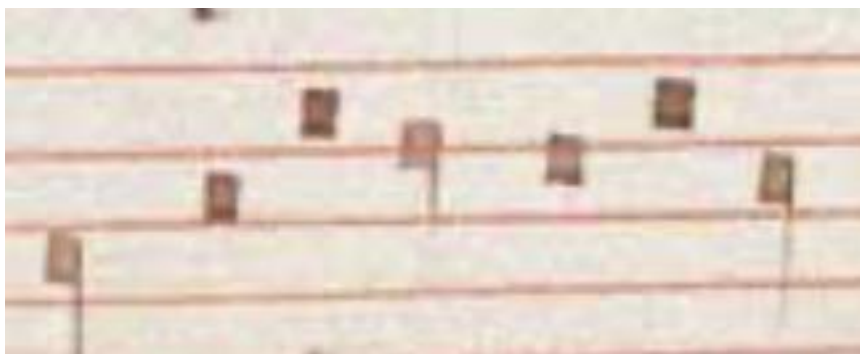
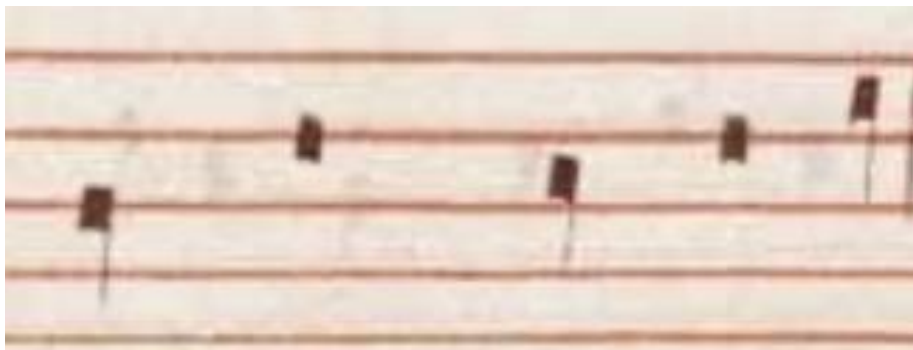
A series of Simplex:

Longa before Longa is perfect (3 times)

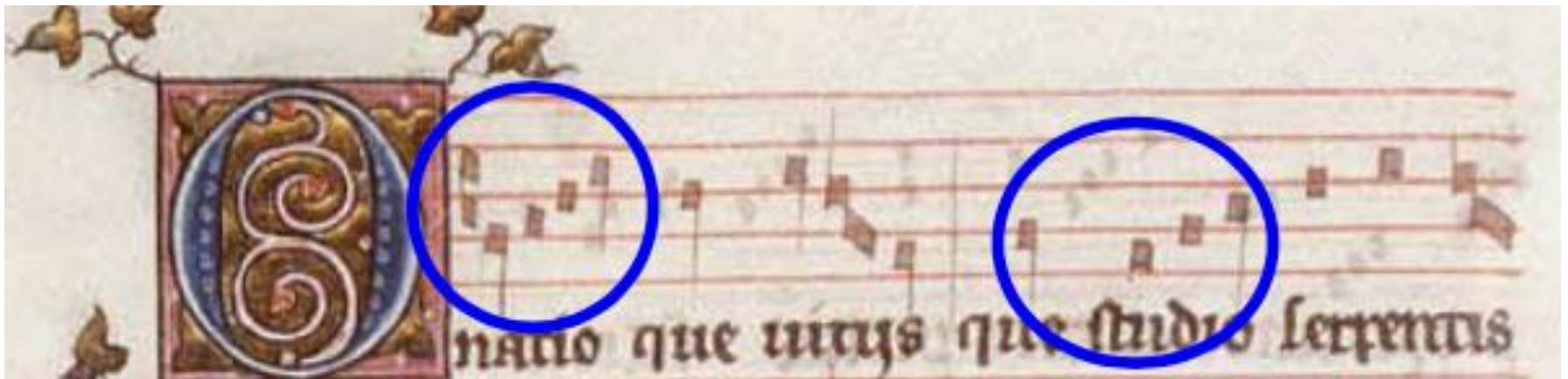
In a sequence Longa-Brevis, the Brevis imperfects the Longa and a Longa recta results

If there are two Breves between Longas, the second Brevis is altered

# Ars antiqua



# Ars antiqua



# Ars antiqua

Maximae are two perfect longas

semibrevis chains are read as groups of two by default

# Ars antiqua

☐ = Maxima (Duplex Longa), ☐ = Longa,  
■ = Brevis, ◆ = Semibrevis, ◆ = Minima.

# Editions

**The Montpellier Codex**, hrsg. von Hans Tischler, 4 Bände, Madison (Wis.): A-R Editions, 1978-1985.

=> Neuere Edition, in der alle Kompositionen des sogenannten "Codex Montpellier" in Noten und Texten übertragen und übersetzt sind. Die Edition ist nach der Reihenfolge der originalen Handschrift sortiert und die einzelnen Teile sind wie folgt aufgebaut:

part 1 : Critical commentary

part 2 : Fasc. 3, 4, and 5

part 3 : Fasc. 6, 7, and 8

part 4 : Texts and translations

**Polyphonies du 13e siècle: le manuscrit H 196 de la Faculté de Médecine de Montpellier**, hrsg. von Yvonne Rokseth, Paris: Ed. de l'oiseau lyre, Dyer, 1935-1939.

=> Die alte Standard-Edition zum "Codex Montpellier" mit guten Angaben zu jedem Stück (auch mit Angabe paralleler Quellen). Die einzelnen Bände sind wie folgt aufgeteilt:

T. 1 : Reproduction phototypique du manuscrit

T. 2 : Transcription intégrale du manuscrit, (fasc. 1-5)

T. 3 : Transcription intégrale du manuscrit, (fasc. 6-8)

T. 4 : Etude et commentaires



# Editions

**Compositions of the Bamberg Manuscript - Bamberg, Staatsbibliothek, Lit. 115 (olim Ed. IV.6.),** hrsg. von Gordon A. Anderson, Translation of French Texts by Robyn E. Smith (= Corpus Mensurabilis Musicae [CMM] 75), 1977.

=> DIE neue Standard-Edition des "Bamberg-Codex" mit Übersetzung aller Motettentexte ins Englische.

**Cent motets du XIIIe siècle publiés d'après le manuscrit ed. IV.6 de Bamberg,** hrsg. von Pierre Aubry, 3 Bände, Paris 1908.

=> Die erste Edition des "Codex Bamberg" - sehr ausführlich in 3 Bänden ediert unter Verwendung der historischen Schlüssel (viele C-Schlüssel), aber mittlerweile veraltet. Die einzelnen Bände sind wie folgt betitelt:

Vol. 1 : Reproduction phototypique du manuscrit original

Vol. 2 : Etudes et commentaires

Vol. 3 : Transcription en notation moderne et mise en partition

# Editions

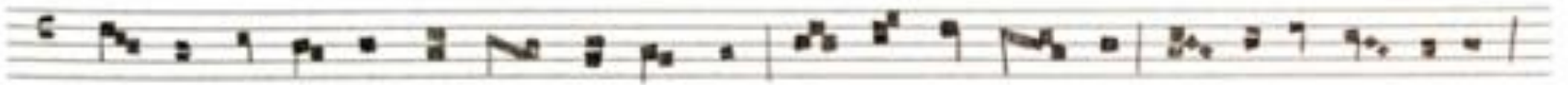
**El Codex musical de Las Huelgas (Musica a veus dels segles XIII-XIV)**, hrsg. von Higinio Anglés, 3 Bände [1: Introduccio; 2: Facsimil; 3: Transcripcio] New York: AMS PRESS, 1977 (= Biblioteca de Catalunya; 6).

=> Die klassische Edition (mit Faksimile) zum sogenannten "Codex Las Huelgas".

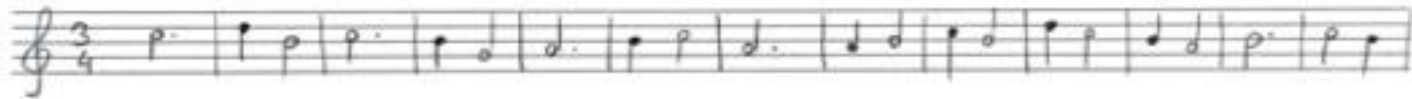
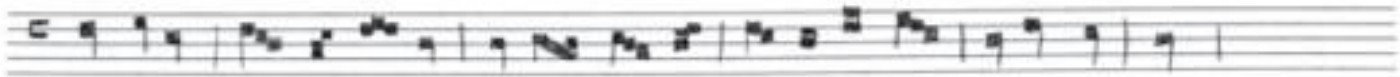
**Der Musiktraktat des Johannes de Grocheo**, nach den Quellen neu hrsg. mit Übersetzung ins Deutsche und Revisionsbericht von Dr. Ernst Rohloff (= Media Latinitas Musica II), Leipzig 1943.

=> Eine Edition des für uns besonders wichtigen Musiktraktats "De Musica" des Theoretikers Johannes de Grocheio. Die Edition enthält den lateinischen Originaltext und eine (etwas antiquierte) deutsche Übersetzung. Aus dieser Edition stammten die Lesungen, die am Theorietag von Block V vorgetragen wurden (v.a. seine einleitende Philosophie [nicht einfach die historischen Autoritäten zu übernehmen, sondern zu prüfen, was jeder genau sagt und nur das anzunehmen, was sinnvoll erscheint, sowie sein Wunsch die Musik der Stadt Paris für seine Schüler zu beschreiben und jede Gattung auf ihren Wert für die Gesellschaft zu überprüfen], seine Aussagen über die musikalischen Gattungen [z.B. "cantus coronatus" = Minnesang, Instrumentalmusik etc.], über die Instrumente [höchstes Lob der Fidel] und über die Mehrstimmigkeit [v.a. die Motette]).

# Exercises



# Exercises



# Exercises



# Music example

Plus bele que flor - Quant revient - L'autrier - Flos

4-part motet from the Codex Montpellier



# Modus und Solmisation

Modes

Dorian

Phrygian

Lydian

Mixolydian

authentic or plagal

which notes are important is what counts, not ambitus

mode as colour, can change during the piece (colour fields), *Musica enchiriadis* (9th century) already mentions Dorian-Phrygian-Lydian-Mixolydian

Modus	Ältere Benennung	Jüngere Benennung	Skalen- ausschnitt	Finalis	Tenor
I	Protus authenticus	dorisch	d-d	d	a
II	Protus plagalis	hypodorisch	a-a	d	f
III	Deuterus authenticus	phrygisch	e-e	e	(h)c
IV	Deuterus plagalis	hypophrygisch	h-h	e	(g)a
V	Tritus authenticus	lydisch	f-f	f	c
VI	Tritus plagalis	hypolydisch	c-c	f	a
VII	Tetrardus authenticus	mixolydisch	g-g	g	d
VIII	Tetrardus plagalis	hypomixolydisch	d-d	g	(h)c

1. Ton (Protus)  
Dorisch



2. Ton  
Hypodorisch



3. Ton (Deuterus)  
Phrygisch



4. Ton  
Hypophrygisch



5. Ton (Tritus)  
Lydisch



6. Ton  
Hypolydisch



7. Ton (Tetrardus)  
Mixolydisch



8. Ton  
Hypo-  
mixolydisch



\* in der obenstehenden Tabelle bezeichnet den Reperkussions- oder Rezitationston.



(Finalis = Ganze Note, Repercussa = rhombische Note, dazu der Ambitus, die »Lizenzen«, d. h. mögliche Erweiterungen, in Klammern):

The image shows eight numbered musical examples arranged in two rows of four. Each example consists of a single staff with a treble clef (examples 1-4) or a bass clef (examples 5-8). The notes are connected by lines, and some are enclosed in parentheses. Brackets below the notes indicate intervals or specific rhythmic groupings. The examples illustrate various rhythmic patterns and their extensions (»Lizenzen«).

Als Beispiele für die »gerüstbildende« Funktion der Repercussionen vorgeführt seien überdies die mittelalterlichen Memorierformeln des 1. und des 2. Modus<sup>24</sup>:

The image shows two musical staves with lyrics underneath. The first staff has the lyrics: Pri - - - mum quae - ri - te re - gnum De - i. The second staff has the lyrics: Se - - - cun - dum au - - - tem si - mi - le est hu - - - ic. The notes are connected by lines, and some are enclosed in parentheses. Brackets below the notes indicate intervals or specific rhythmic groupings.

VI. Memorierformeln der acht Modi (nach Johannes  
Affligemensis, De musica cum tonario, Kap. 11)

Pri - - mum quae - ri - te re - gnum De - i.  
Se - cun - dum au - tem si - mi - le est hu - ic.  
Ter - ti - a di - es est quod haec fa - cta sunt.  
Quar - ta vi - gi - li - a ve - nit ad e - os.\*  
Quin - que pru - den - tes in - tra - ve - runt ad nu - pti - as.  
Sex - ta ho - - ra . se - dit su - per pu - te - um.  
Se - ptem sunt spi - ri - tus an - te thro - num De - i.  
O - cto sunt be - a - ti - tu - di - nes.

Pri - - - mum quae - ri - te re - gnum De - i.  
 Se - cun - dum au - tem si - mi - le est hu - ic.  
 Ter - ti - a di - es est quod haec fa - cta sunt.  
 Quar - ta vi - gi - li - a ve - nit ad e - os.\*  
 Quin - que pru - den - tes in - tra - ve - runt ad nu - pti - as.  
 Sex - ta ho - - - ra se - dit su - per pu - te - um.  
 Se - ptem sunt spi - ri - tus an - te thro - num De - i.  
 O - cto sunt be - a - ti - tu - di - nes.

1. 3. 5. 7.  
 2. 4. 6. 8.

**CLAVES**  
diuiduntur in

Geminatas siue  
excellētes, quia  
duplicatis lite-  
ris scribuntur,  
& sunt 5.

Minores & a-  
cutas, quia pu-  
sillis literis scri-  
buntur, et sunt  
7.

Maiores & ca-  
pitales, quia ca-  
pitalibus &  
grandiusculis  
literis notātur,  
& sunt 5.

ee					la
dd	-----	-----	-----	-----	la sol
cc					sol fa
bb	-----	-----	-----	-----	fa mi
aa					la mi re
g	-----	-----	-----	-----	sol re ut
f					fa ut
e	-----	-----	-----	-----	la mi
d					la sol re
c	-----	-----	-----	-----	sol fa ut
b					fa mi
a	-----	-----	-----	-----	la mi re
G					sol re ut
F	-----	-----	-----	-----	fa ut
E					la mi
D	-----	-----	-----	-----	sol re
C					fa ut
B	-----	-----	-----	-----	mi
A					re
A	-----	-----	-----	-----	ut

# Hexachord

- Origin of the name: hex = six and chordè = strings: six strings
- Structure: 2 whole tones, half tone, 2 whole tones
- Lowest note in the system: gammut
- Notes are labelled with tone letters (clavis, littera) and syllables (voces, syllabae).
- Tone letters indicate the pitch of the tone, while syllables indicate its quality (order within the hexachord)
- first described by Guido of Arezzo, but not invented by him

# Hexachord

Division into pitch ranges:

note graves from  $\Gamma$  to G (today G to g)

note acute from a to g (today a to g')

note superacute from aa to bia to ee (today a' to e'')

Hexachords occur on the following pitches:

c (naturale)

f (molle) with b quadratum

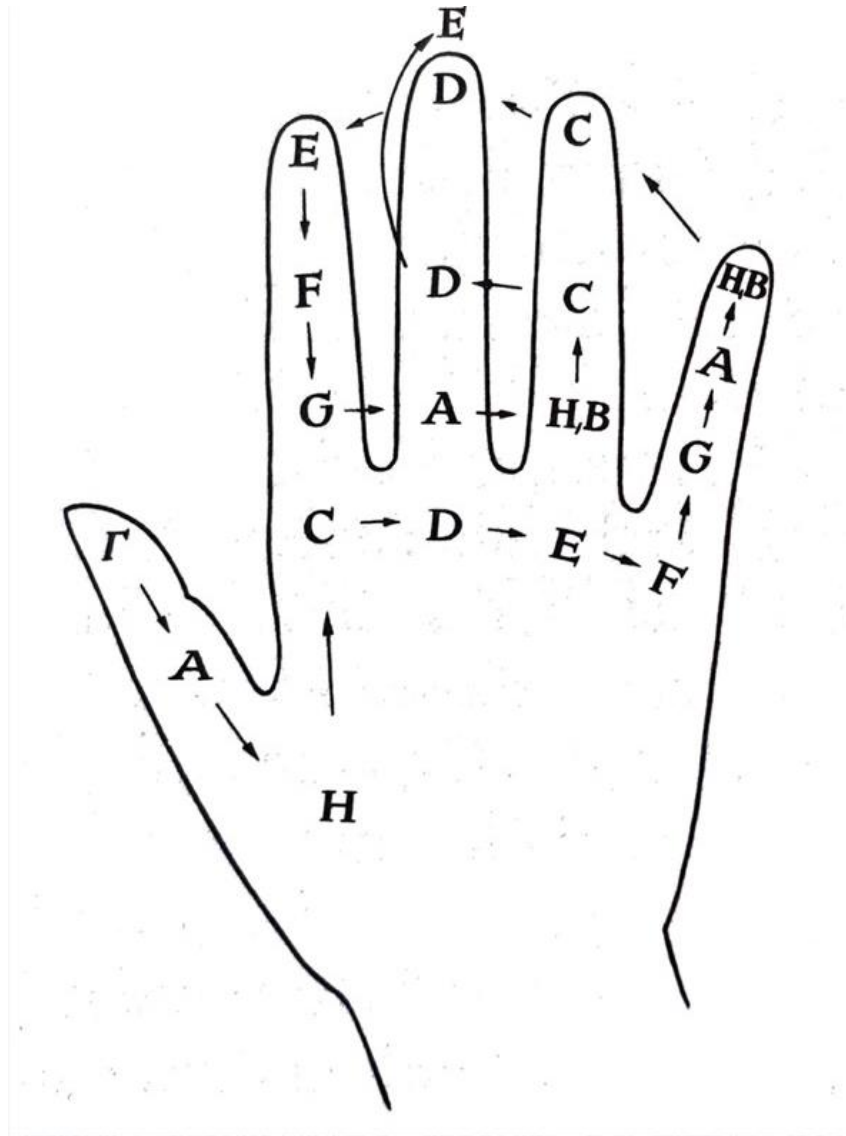
g (durum) with rotundum

= musica recta

Deviations from the notes occurring in it lead to musica ficta

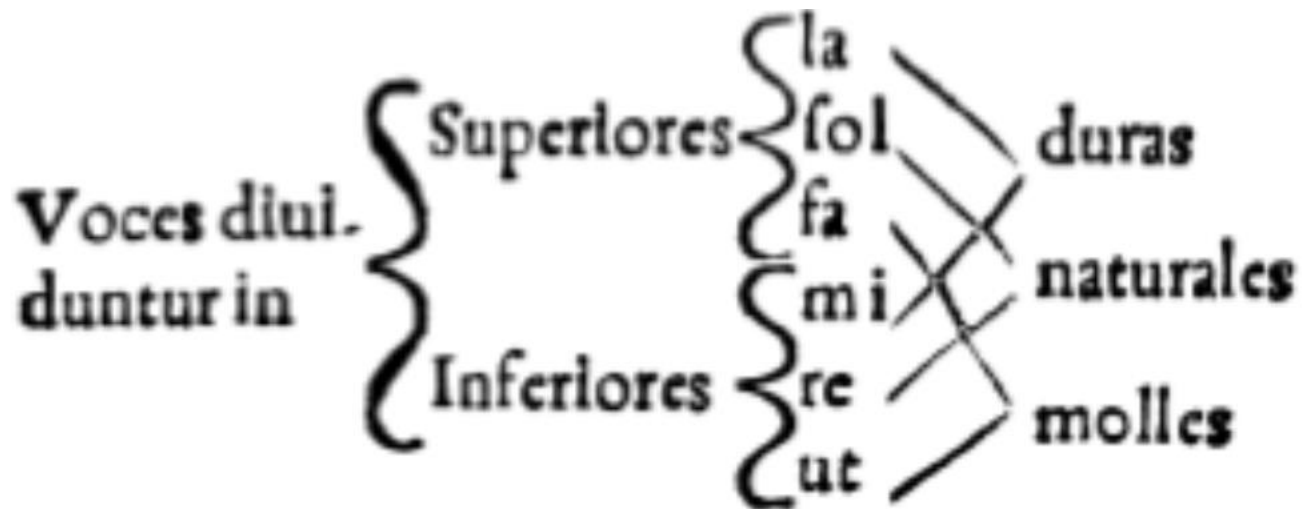
'fa sopra la' only occurs in 16th century music, but in earlier music when descending rather b and when ascending then h







# Hexachord



# Hexachord

- *duras* (hard): *mi, la*
- *naturales* (natural): *re, sol*
- *molles* (soft): *ut, fa*

# Mutation



ut re mi fa sol la ut re mi fa sol la

The first staff of music is written in bass clef with a common time signature (C). It shows a scale starting on C (middle C) and ascending to G (the second line of the staff). The notes are C, D, E, F, G, A, B, C, D, E, F, G. The lyrics 'ut re mi fa sol la' are written below the first six notes, and 'ut re mi fa sol la' are written below the last six notes, indicating a continuation of the scale.

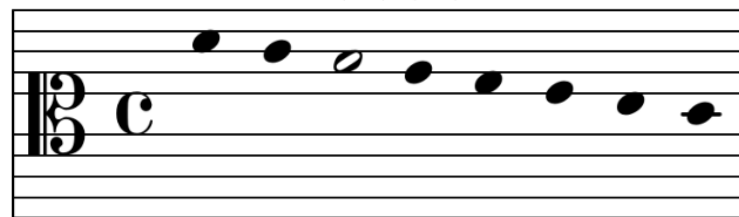
(ut) re mi fa



ut re mi fa sol (la)

The second staff of music is written in bass clef with a common time signature (C). It shows a scale starting on C and ascending to G. The notes are C, D, E, F, G, A, B, C, D, E, F, G. The lyrics '(ut) re mi fa' are written above the first three notes, and 'ut re mi fa sol (la)' are written below the last six notes. A fermata is placed over the final note, G.

fa mi (re) (ut)



la sol fa mi re ut

The third staff of music is written in bass clef with a common time signature (C). It shows a scale starting on G and descending to C. The notes are G, F, E, D, C, B, A, G, F, E, D, C. The lyrics 'fa mi (re) (ut)' are written above the first three notes, and 'la sol fa mi re ut' are written below the last six notes.

# Mutation

The ideal place to make the mutation is between

naturale - durum

naturale - molle

rather than between durum - molle

(chromatic modulation)

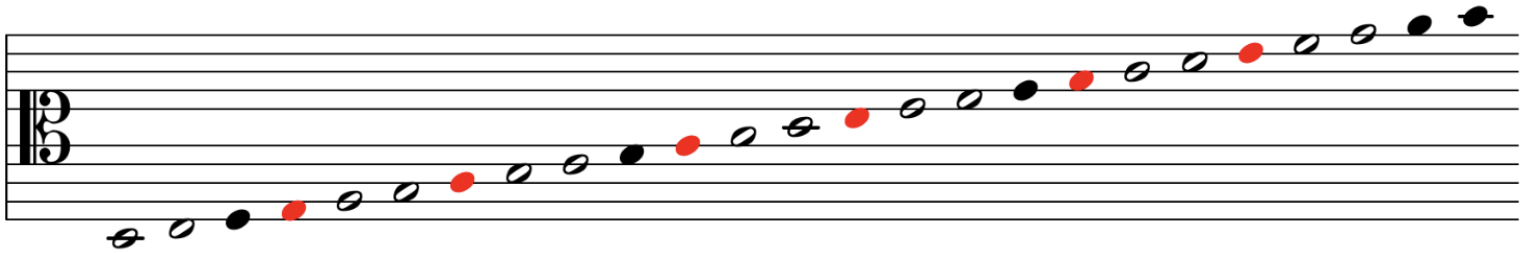
# Mutation

upwards to the re of the next hexachord, rather not  
already at ut

downwards as fast as possible, also on the la

Glarean 1516: syllables hard with hard and soft with soft  
are best for mutation

# Mutation



# Mutation

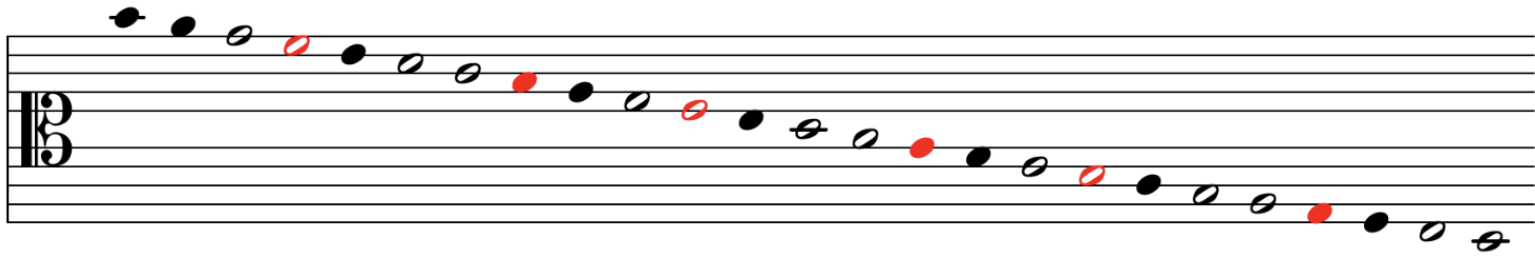
mi fa sol re mi fa re mi fa sol re mi fa re mi fa sol re mi fa re mi fa sol la





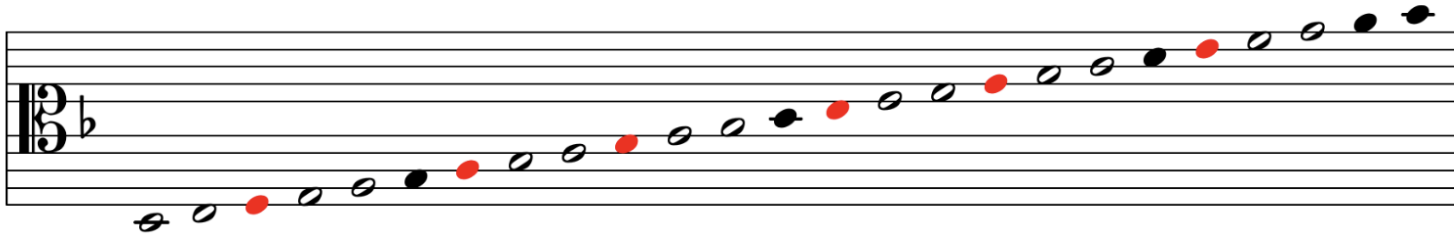


# Mutation



la sol fa la sol fa mi la sol fa la sol fa mi la sol fa la sol fa mi la sol fa mi

# Mutation



# Mutation



A musical staff in 3/8 time with a key signature of one flat (B-flat). The staff contains a sequence of 18 notes, each with a solfège label below it. The notes are: mi (red), fa (white), re (white), mi (white), fa (white), sol (red), re (white), mi (white), fa (white), re (white), mi (white), fa (white), sol (red), re (white), mi (white), fa (white), sol (red), and la (black). The notes are arranged in an ascending scale, with the final note 'la' being a half note and the others being quarter notes.

mi fa re mi fa sol re mi fa re mi fa sol re mi fa sol re mi fa sol la



# Mutation

A musical score for a vocal line, likely a soprano or alto part, written on a single staff. The key signature is one flat (B-flat), and the time signature is 3/4. The melody consists of a series of eighth notes, with some notes marked in red to indicate mutations. The lyrics are: la sol fa mi la sol fa la sol fa mi la sol fa la sol fa mi la sol fa la sol fa mi.

la sol fa mi la sol fa la sol fa mi la sol fa la sol fa mi la sol fa la sol fa mi

# Mutation

- For jumps: if possible, mutation with the same syllables re – re, or sol – sol etc.

# Musical notation

ornamental neumes

e.g. plica, quilisma

performance indications

Letter from Notker to Lantpert explaining the signs:

higher: o/l/s (l comes from levare, to raise)

same: e/simul

lower: i/a (i usually without dot) comes from iusum; use: lower than you think

fast: c (celeriter)

slow: t (tenere)

sweet/rit.: x (expectare)



	St. Gallen	Metz	Nordfrz.	Benevent	Aquitan.	Quadrat-N.	Hufnagel-N.
Akzent-Neumen (Auf- u. Abbewegung)	Punctum	·(∖)	·~	-	~	·	■
	Virga	/ /	∩	∩	∩	∩	∩
	Podatus (Pes)	∩ ∩	∩ ∩	∩	∩	∩	∩
	Clivis (Flexa)	∩	∩ ∩	∩	∩ ∩	∩ ∩	∩ ∩
	Scandicus	∩ ∩	∩ ∩	∩	∩	∩ ∩	∩ ∩
	Climacus	∩ ∩	∩ ∩	∩ ∩ (β)	∩ ∩	∩ ∩	∩ ∩
	Torculus	∩ ∩ ∩	∩	∩	∩	∩ ∩	∩ ∩
	Porrectus	∩	∩	∩	∩ ∩	∩ ∩	∩ ∩

D Die acht Grundneumen in verschiedenen Schreibweisen

	St. Gallen	heutiger Choralschrift
Akzent-N.	Pes subbipunctis	∩ ∩
	Torculus resupinus	∩ ∩ ∩
	Porrectus flexus	∩ ∩ ∩
Haken-N.	Epiphonus	∩
	Cephalicus	∩
	Ancus	∩ ∩

	St. Gallen	heutiger Choralschrift
Haken-Neumen (Vortragsweise)	Strophicus	∩ ∩ ∩ ∩
	Oriscus	∩ ∩
	Pressus	∩ ∩
	Trigon	∩ ∩ ∩
	Salicus	∩ ∩
	Quilisma	∩ ∩ ∩

E Häufige Neumen in St. Galler und heutiger Choralschrift (Quadratnotation)

	Quadrat-N.
Punctum	■
Virga	└
Podatus (Pes)	▢
Clivis (Flexa)	└┐
Scandicus	└┐└
Climacus	└┐└┐
Torculus	└┐└┐└
Porrectus	└┐└┐└┐

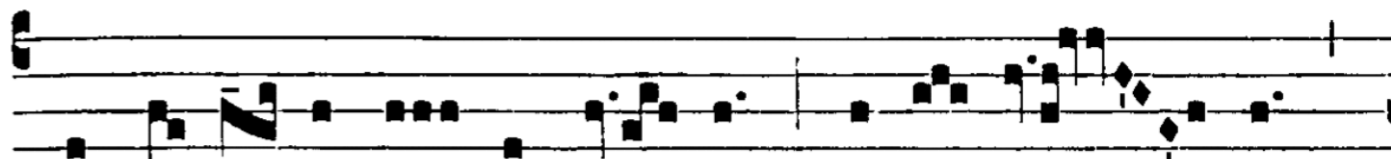
# Practical examples

*Cf. Is. 40, 5*

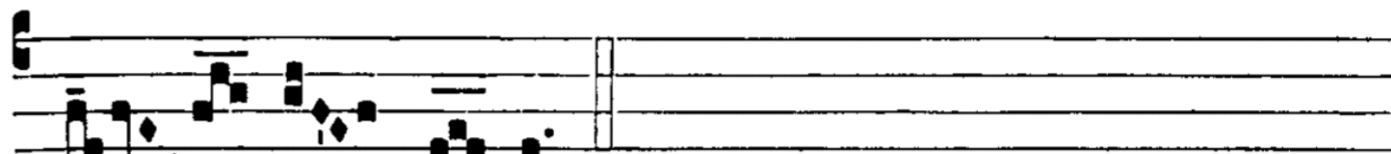
CO. I



**R** E- ve- lá- bi- tur \* gló- ri- a Dó- mi- ni :



et vi- dé- bit o- mnis ca- ro sa- lu- tá- re



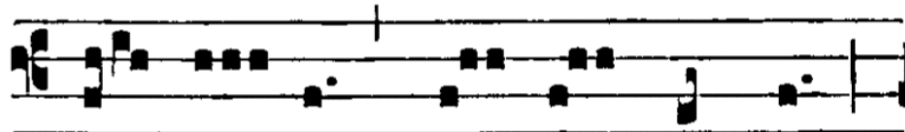
De- i no- stri.

Ps. 23\*, 1. 2. 3. 4. 5. 6. 7. 8

Antiphona ad introitum II

*Ps. 2, 7. V. 1. 2. 8*

D



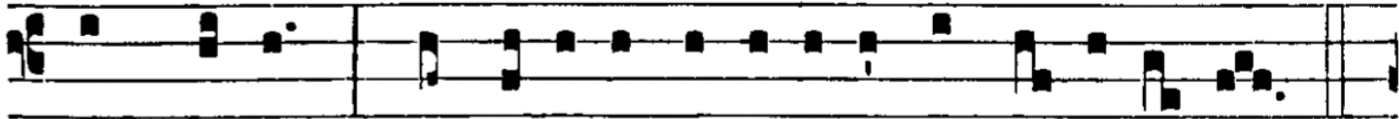
O- MI- NUS \* dí- xit ad me :



Fí- li- us me- us es tu, e-



go hó- di- e gé- nu- i te. *Ps. Qua-re fremu- é-*



runt gentes : et pópu- li me- di- tá- ti sunt in- á- ni- a? *Ant.*

*Ps. 84, 7-8*

OF. III

**D** E- us \* tu con- vér- tens vi- vi- fi- cá-  
bis nos, et plebs tu- a lae-

Graduale Romanum Vaticana s. 20

IN. IV

**P** Ro- pe es tu Dómi- ne, \*

Graduale Romanum Vaticana s. 24

*Is. 60, 6. V. 1*


GR. V

O


- mnes \* de Sa- ba vé-  
ni- ent, au- rum et thus de-fe-réntes, et laudem Dómi-no  
annun- ti- ántes. V. Surge,

*Ps. 14, 1. 2 a*

CO. VI



**D** Omi-ne,\* quis ha-bi-tá-bit in tabernácu-lo tu- o?



aut quis requi- é-scet in monte sancto tu- o? Qui

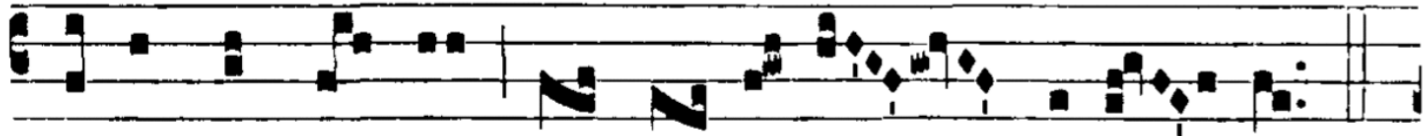


*Ps. 26, 14 et 1*

IN. VII

**E**

Xspécta Dó- minum, \* vi-rí-li-ter age : et confor-

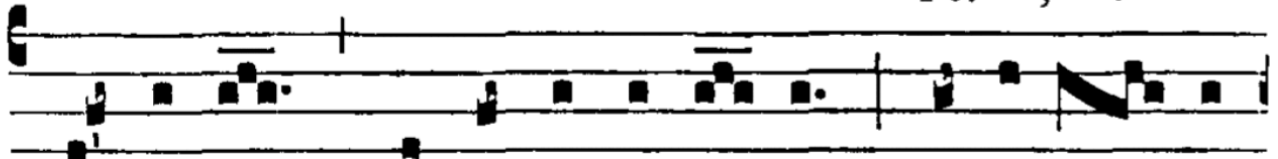


té-tur cor tu- um, et sú-s-ti- ne Dómi- num.

*Ps. 21, 20. 22 et 2*

IN. VIII

**D**



O-mi-ne, \* ne longe fá-ci-as auxí-li-um



tu-um a me,

# Repetitorium Musica figurata

*Ps. 84, 13*

O-mi- nus \* da- bit be- nigni-tá- tem : et

ter- ra no-stra da- bit fructum su- um.

Ps. 84, 2. 3. 4. 5. 7. 8. 10. 11. 12

*Ps. 49, 2. 3. ♯. 5*

X Si- on \*spé- ci- es de- có- ris

e-ius : De- us ma-ni- fé- ste vé-

ni- et. ♯. Congre-gá-

Graduale Romanum Vaticana s. 19





L- le- lú- ia.



Graduale Romanum Vaticana s. 36

*Mt. 2, 20*



Olle \* pú- e- rum et ma- trem e- ius, et va- de



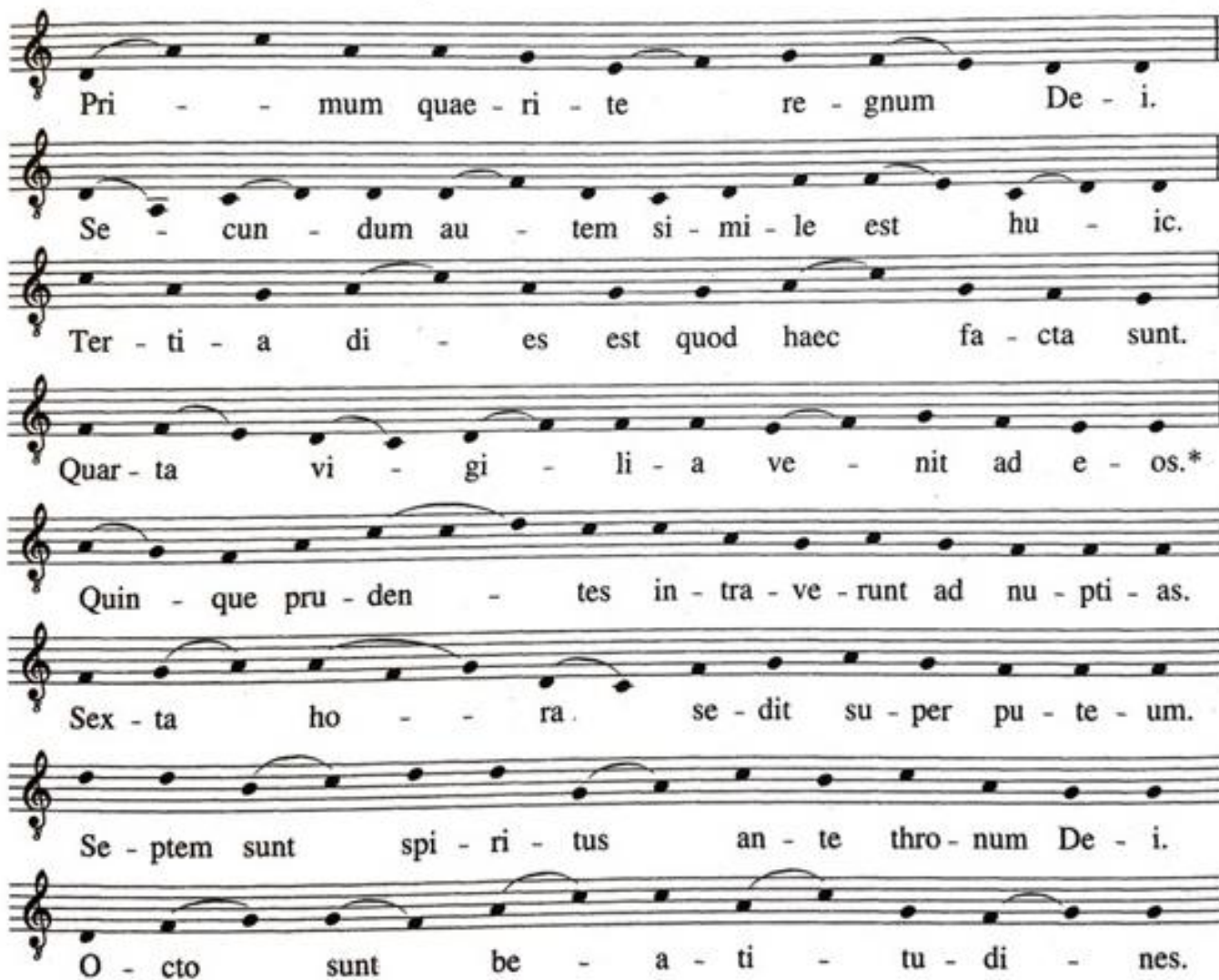
in terram Isra- el : de- fúnc- ti sunt e- nim, qui quae-



ré- bant á- nimam pú- e- ri.



# Practical examples



Pri - - mum quae - ri - te re - gnum De - i.

Se - cun - dum au - tem si - mi - le est hu - ic.

Ter - ti - a di - es est quod haec fa - cta sunt.

Quar - ta vi - gi - li - a ve - nit ad e - os.\*

Quin - que pru - den - tes in - tra - ve - runt ad nu - pti - as.

Sex - ta ho - - ra . se - dit su - per pu - te - um.

Se - ptem sunt spi - ri - tus an - te thro - num De - i.

O - cto sunt be - a - ti - tu - di - nes.

# Practical examples

re la fa la la sol mi fa sol fa mi re re  
Pri - - mum quae - ri - te re - gnum De - i.  
re re ut re re ra fa re ut re fa la mi ut re re  
Se - cun - dum au - tem si - mi - le est hu - ic.  
fa re ut re la re ut re fa sol fa ut  
Ter - ti - a di - es est quod haec fa - cta sunt.  
la fa mi re ut re la fa fa mi fa sol fa mi mi  
Quar - ta vi - gi - li - a ve - nit ad e - os.\*  
la sol fa fa sol la re sol la sol la  
Quin - que pru - den - tes in - tra - ve - runt ad nu - pti - as.  
fa sol la la fa sol re ut la sol la sol la  
Sex - ta ho - - ra se - dit su - per pu - te - um.  
sol mi fa sol ut re fa mi la re ut  
Se - ptem sunt spi - ri - tus an - te thro - num De - i,  
re la sol fa la fa re fa sol fa sol  
O - cto sunt be - a - ti - tu - di - nes.

