

G^{uide} for a Gregorian chant score

with  *gregorio*



 centrum gregoriaans
een beleving

Jan De Schryver - ©2020

Thank to my daughter Isabel, who translated the Dutch guide into English.
Gilbert, thank you for your support.

Introduction

With this guide we want you to show how to make a Gregorian chant score with "Gregorio". Gregorio is a free scorewriter computer program for Gregorian chant, with the main task: convert a text file written in gabc (g for Gregorian chant - abc musical notes, ie square notation) with or without neumes of St. Gallen or Laon, and, if desired, with the addition of a translation below the Latin texts. The text file must be written in an unformatted form. We suggest word processors such as Notepad ++ for this purpose.

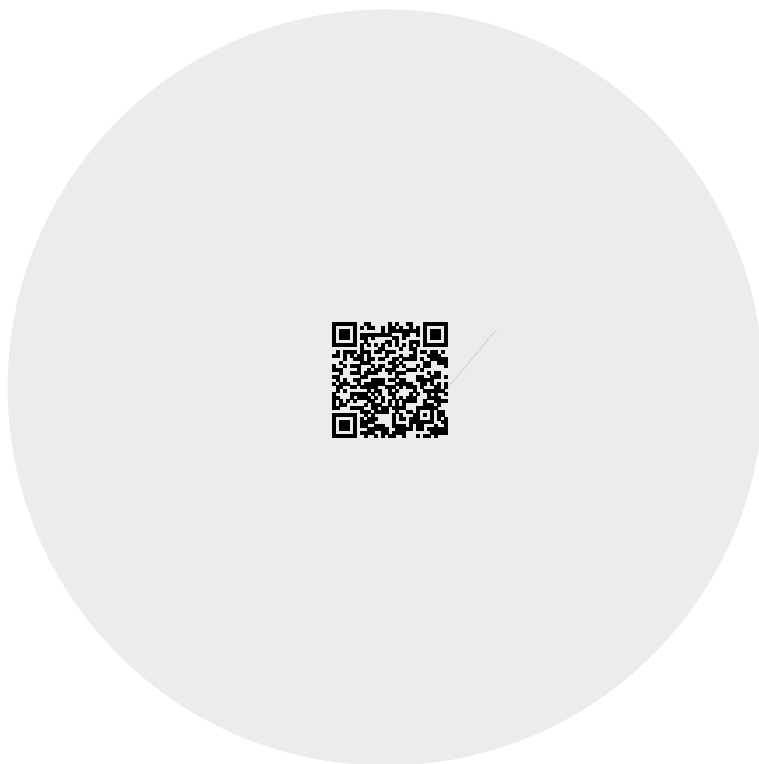
In the 1st Chapter we describe the rules for the creation of a good gabc file and we will discuss the tool offered on the website: <http://gregorio.gabrielmass.com/cgi/process.pl> ; called the 'engraver'.

In the 2nd chapter we will download "gregorio" on our pc, in order to write our own score for Gregorian Chant.

In the appendices you will find an overview on how to program the neumes of St. Gallen and of Laon together with both practical and technical information

VI
C
entrum gre-go- ri- a- num Trun- ci-nis e-do- cet te gre-go-ri- o.
The Gregorian Center Drongen *learns you gregorio*





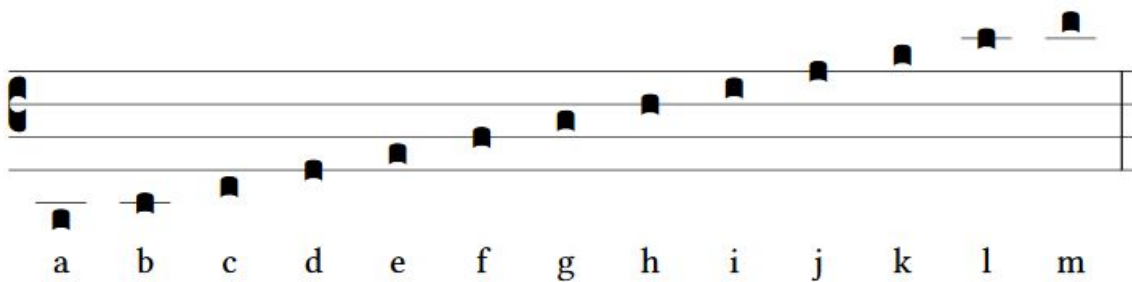
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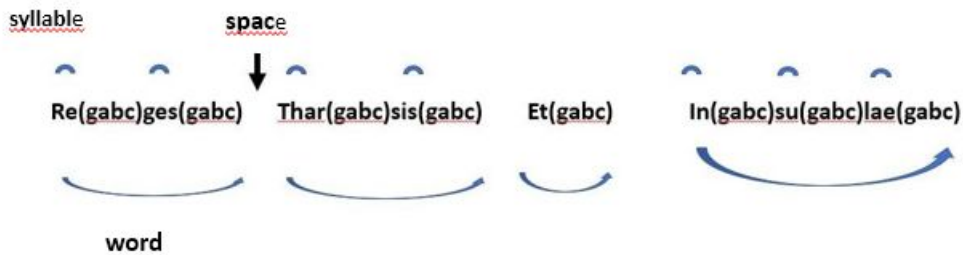
Chapter 1

Gregorio gabc|nabc and the 'Chant Engraver'

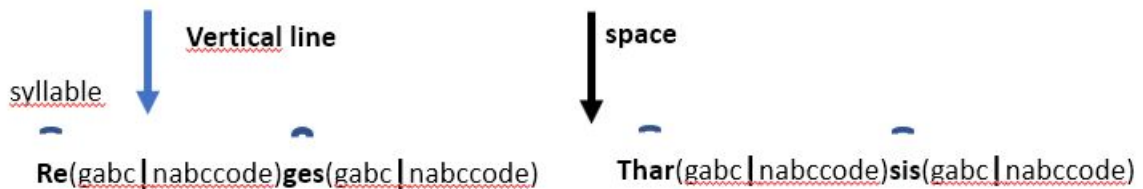
The letters for the **gabc** notation from a - m always stand in a fixed place



Text and gabc notation - p7-11



Text and gabc notation and nabc code - p13-15



[Engraver](https://run.gregoriochant.org/cgi/process.pl)

(<https://run.gregoriochant.org/cgi/process.pl>)

Zie p16

1.1 Gabc notations.

1.1.1 Common gabc notation

Offertorium Reges Tharsis

Paste the following 3 lines in the empty window of the 'engraver' (see below) and press 'submit'

name: Reges Tharsis;

%%

(c3)Re(h)ges(fh) Thar(h)sis(hhh/hv/hhh) et(fh) in(hhh/jvIH)su(hvGF)lae(fhGFh) (::)

Here the result of the pdf-file:

Reges Tharsis

e-ges Thar-sis et in- su- lae

capital R
is black

1.1.2 Gabc notation with own designation options

Paste the following four lines in the engraver and press 'submit'

name: Reges Tharsis;

%%

(c3)<c>R</c>E(h)ges(fh) Thar(h)sis(hhh[cs:t]/hv_1/hhh[cs:t]) et(fq_h_)

ín(hhh[cs:t]jvIH)su(hvGF)lae(f_1hvGFhv.) (,)

Here the result of the pdf-file:

Reges Tharsis

E-ges Thar-sis et ín- su- lae

now
capital R
is red

Pay attention to where you placed a 'cs' choral sign or sign by the note.

The t of 'cs' means 'together' that the previous isotonic notes are taken together.

Note the pes quadratus on the word 'et': the difference with the previous pes on '-ges'

You made the first letter RED.

See also 'summary of square notations' below .^a

^aAppendices- Notes and neumes

Reges Tharsis - cantor designation

E-ges Tharsis * et ín- su- lae

now
capital R
is red

What is added is red!

(c3)<c>R</c><alt>Cantor</alt>E(h)ges(fh)
Thar(h)sis(hhh[cs:t]hv_1/hhh[cs:t])* (,)

For this and subsequent pages always use the → [Engraver](https://run.gregoriochant.org/cgi/process.pl)
(<https://run.gregoriochant.org/cgi/process.pl>)

1.1.3 Gabc notation - with an option of the 'engraver' scaling factor 17 (Solesmes' choice) *

Offertorium Reges Tharsis

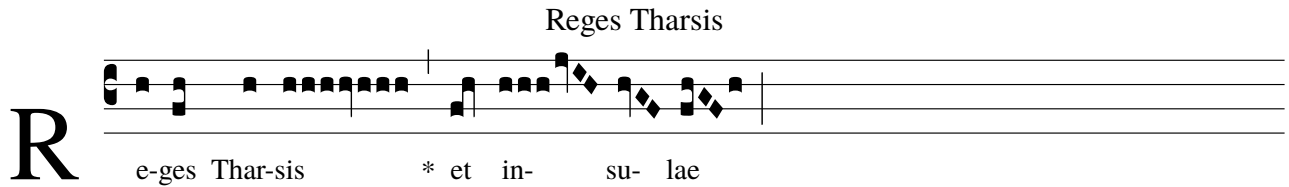
Paste the following three lines in the engraver choose scaling factor = 17 and press 'submit'

name: Reges Tharsis;

%o%o

(c3)Re(h)ges(fh) Thar(h)sis(hhh/hv/hhh) *(,) et(fqh) in(hhh/jvIH)su(hvGF)lae(fhGFh) (;)

Reges Tharsis



R e-ges Thar-sis * et in- su- lae

1.1.4 Gabc notation with own designations and an option of the 'engraver' scaling factor 30 *

Paste the next four lines in the engraver choose scaling factor = 30 and press 'submit'

name: Reges Tharsis;

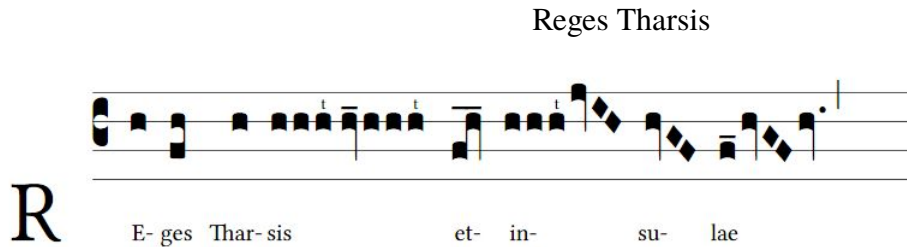
%o%o

(c3)RE(h)ges(fh) Thar(h)sis(hhh[cs:t]//hv_1/hhh[cs:t]) et(fq_h_)

ín(hhh[cs:t]jvIH)su(hvGF)lae(f_1hvGFhv.) (,)

Here the result of the pdf-file:

Reges Tharsis



R E- ges Thar- sis et- in- su- lae

Beside the indication: cs: .. exists also the prolongation _ and _1 cfr p10 and 33 of this guide

Placing horizontal epismata on p253 of the GregorioRef.pdf (see website p51).

The scaling factor is one of the options of the 'engraver': see p16 and next.

Note, as the scaling factor increases, the notes become larger.

This improves visibility and readability.

Practice with other options from the Gregorian Chant Engraver as well p16..

Use 'the engraver' (see below) to check the accuracy of your gabc notations.

[Engraver](#)

(<https://run.gregoriochant.org/cgi/process.pl>)

>

1.1.5 Copy of Reges Tharsis from the GT 58 with corresponding gabc file

Ps. 71, 10. 11

OF. V
RBCKS
E51

Eges Tharsis * et ín- su- lae mú-
ne- ra óf- fe- rent : reges A- rá- bum et Sa-
ba do- na ad- dú- cent : et ad-o-
rá- bunt e- um omnes re- ges ter- rae,
o- mnes gen- tes sér- vi- ent e- i.

name: Offertorium Reges Tharsis;

commentary: Ps71,10.11;

annotation: Of. V;

%%

(c3)RE(h)ges(fh) Thar(h)sis(h/h/h/hv./h/h/h) *(,)
 et(fh) ín(h/h/h/jvIH)su(hvGF)lae(fhGF/h.) (;)
 mú(d!ef//ivHG)(z)ne(hVggfg)ra(g_f) óf(gxdf!gvFE)fe(fVeede)rent:(ed.) (:)
 re(f)ges(e) A(ef!gvvf)ra(ef!hhvFE)bum(feed.) (;)
 et(de) Sa(f)(z)ba(hig/hvFE./hig/hvFEed.) (;)
 do(fh/h'h/hi)na(i) ad(hhh)dú(hijvIH'G/hvGFg)cent:(gf.) (:)
 et(hf) a(h)do(hi)(z)rá(iv.hih/he)bunt(fhg) e(h_g)um(hig'/hvFD.) (;)
 o(df)mnes(f_e) re(f/hhh)ges(f_e) ter(egFEfe)rae,(e.) (:)(z)
 o(f/hih/h'h)mnes(ef/g_f) gen(f/hih/h'h)tes(ef/g_f) (;)
 sér(fh/i_1h)vi(gxf/h/hf/ge)ent(de/fhf) e(gx/egFE/fd)i.(d.) (::)

In this gabc file you will find 4x a '!' exclamation mark.

This exclamation mark moves the next higher note to the RIGHT.

However this '!' mark is not always necessary,

because the program usually knows where the square notes should go.

In gabc notation, never forget to put a blank space after a word to avoid hyphen (-).

Always test your gabc file in the 'engraver'.

OFFERTORIUM REGES THARSIS

Of. V

R Eges Tharsis et ín- su- lae mú-
 ne- ra óf fe- rent: reges A- ra- bum et Sa-
 ba do- na ad-dú- cent:

Here below the 3 first lines of gabc notation of Reges Tharsis.

Some notes have been modified according to the neumatic designation. Compare with score p9

See 3rd line: mu (DEF, here with extension) instead of 'd! ef'(p9). D_E_F_ = DEF__

Note: the exclamation mark is not necessary.

Other example: dqe (6th line) represents a pes quadratum in square notation. hs represents a strofa.

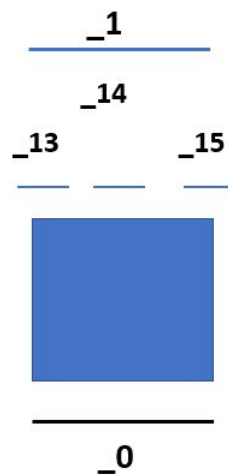
Changes have also been made on the next page, try to discover them. See 'summary' p33.

name: Offertorium Reges Tharsis;

annotation: OF-V;

```
%6%6
(c3)RE(h)ges(fh) Thar(h)sis(hshshs_12hv_12/hshsh_1) et(fqh__)
ín(hshsh_1jvIH)su(hvGF)lae(f_1hvGFhv.) (,) mú(D_!E_!F_ivHG__)(z)
ne(hVggofg)ra(g_f) ->> D E F diamond shaped notes replace d!ef
óf(gxDF_!gvFE_04)fe(fVeeode)rent:(ed_) (:)
re(f)ges(e) A(ef!gvvgF_04)ra(ef!hhFE)bum(feed.) (,)
et(dqe_) Sa(f)(z)ba(hig/hvFE.//hig/hvFEeod.) (;)
do(fqh/hshs/hsi)na(i)
ad(hshshs)dú(hi!jvIHG/hv.GFg)cent:(gf__) (:)
```

- 0 places the episema under the note
 - 1 places the episema above the note
 - 2 avoids clinging of the episema with the following episema (unison)
 - e.g. (h_12h_12) on sis
 - 3 use a narrow episema, left delineated
 - 4 use a narrow episema, centerline
 - 5 use a narrow episema, delineated right
 - (z) is end of line
- the '!' exclamation mark moves the note to the right.



1.1.7 Of Reges Tharsis - with changes and with translation on the 2nd line

OF. V

R E- ges Thar- sis et ín- su- lae mú-
The kings of Tharsis and the isle offer their gifts

ne- ra óf fe- rent: re- ges A- ra- bum et Sa-
The kings of Arabia and Sheba

ba do- na ad- dú- cent: et a- do-
bring gifts And will adore Him

rá- bunt e- um omnes re- ges ter- rae, *
All the kings of the earth

o- mnes gen- tes sér- vi- ent e- i.
All peoples will serve Him

```
(c3)RE[The kings of Tharsis](h)ges(fh)Thar(h)sis[/](hhh[cs:t]//hv_1/hhh[cs:t])
et[and the isle](fq_0h_1)ín(hhh[cs:t]jvIH)su(hvGF)lae[/](f_1hvGFhv.) (,)
mú[offer their gifts](D_14!E_14!F_14iv_14H_14G_14)(z)
ne(hVggoFgv.)ra(g_f_)óf(gxDF_!gvFE_04)
fe(fVeeoDev.)rent:[/](ed_) (:)
re[The kings of Arabia](f)ges(e)A(EF!GvGgF_04)ra(EF!HHFE_)bum[/](feeoD.) (,)
et[and Sheba](dqe_)Sa(f)(z)ba[/](hig/hvFE_04//hig/hvFEe[cs:t]d) (;)
do[bring gifts](fh/h[ub:1;3mm]h/hi)na(i_14)
ad(hhh[cs:t])dú(H!I!jvIH_13G_15hv.GFgv.)cent:[/](gf_) (:)
et[And will adore Him](hf) a(h)do(hi)(z)rá(iv_14hih_0h_1e)bunt(fhg)
e(h_g_)um[/](highFD_) (;) o[All the kings of the earth](df)mnes(f_e_)
re(f/hhh[cs:t])ges(f_e_)ter(e_1gvFEfe)rae,[/](e.)*(:)(z)
o[All peoples will serve Him](f_1/hih/hh[cs:t])mnes(EF/g_f_)
gen(f_1/hih/hh[cs:t])tes(EF/g_f_) (;)
sér(FH/i_h_)vi(gxf/hh[cs:t]f/ge)ent(DE/fhf) e(gxe_1/gFEfd)i.[/](d) (::)
```

Numerous changes have been made above:

They are codes that are applied for a way of singing. Arcs, chorus characters, extension marks, change of note shape. You can leave out these characters if you wish, and restore the note shape. You can make and check other indications in the 'engraver' and see on the 'engraver website' under Resources: 'one-page summary'

Text [translation] (gabc|nabc) text [/] (gabc|nabc):

Start the translation text immediately after the 1st syllable [translation text] and when the translation has been processed, place [/] usually after the last syllable of translated part.

You can only determine the printing type of the translation text if you work with gregorio on your PC installed. (z) indicates the end of the line.

1.1.8 Working with 'gregobase'

Open the following website

It contains the database, called 'Gregobase':

<https://gregobase.selapa.net>

The screenshot shows the GregoBase website interface. At the top, the title 'GregoBase' is displayed with the subtitle 'A database of gregorian scores'. A navigation menu includes 'Scores', 'Participate', 'Todo', 'About', 'Summary of GABC', 'Login', and 'Please fix'. The 'Scores' tab is highlighted with a red circle. The main content area displays a Gregorian score for 'Reges Tharsis', starting with 'Offert. 5. R eges Tharsis, et in- su- læ mú- ne-'. The score is presented on five staves with Latin lyrics underneath. To the right of the score, there is a sidebar with the following sections: 'Reges Tharsis', 'Version' (Dominican), 'Usage' (Offertorium), 'Sources' (Graduale O.P. (Suarez). Dominican. 1950. p. 45), 'Download' (GABC, PDF, EPS, PNG), and 'History' (Dec 29, 2014: Added to the database (Andrew Hinkley) ; Original transcriber: Andrew Hinkley). A red circle highlights the 'Sources' section. At the bottom of the page, a dialog box titled 'of--reges_tharsis--dominican.gabc openen' is open, showing the file name and type, and asking 'Wat moet Firefox met dit bestand doen?' with options 'Openen met Notepad++ : a free (GNU) source code editor', 'Bestand opslaan', and 'Dit vanaf nu automatisch doen voor dit type bestanden'. The 'Openen met' option is selected.

Instead of making your gabc file yourself, almost all of them can be found right here ready for use under the 'scores' tab of Gregobase. Download it or open it with 'notepad' or another unformatting word processor.

Afterwards you can adjust this gabc file to your wishes.

If you place this file in the 'engraver' you will receive a score in PDF format.

1.2 Gabc and Nabc codes

syl(gabc|nabc)syl(gabc|nabc)

1.2.1 Text, gabc and nabc(neumcode-SG) by Reges Tharsis

Text, gabc with neumatic designation and nabc (neumcode-SG)

```
name: Of.Regis Tharsis;
commentary: Ps.71,10,11;
user-notes: GT 58 - Epiphania Domini ;
annotation: OF. V;
nabc-lines: 1;
%%
(c3)RE(hV>|vi>ls12ls16)ges(fqh|pelsm2)
Thar(h|vilse4)sis(hsss|///ts-hk|hv|///vi-hklse2|hsss|///ts-hm) *(,)
et(fqh|peS1si8) in(hsss|ts-|jvIH|cihhls12lsc3)
su(hvGF|ci)læ(fhGFh|vippt1su2lse7vihg) (;)
```

Of. Reges Tharsis

GT.58 - In Epiphania Domini - July 2, 2020

Ps. 71, 10, 11

OF - V
R
E-ges Tharsis * et in su- læ

The square notes of the syllable(-ges) do not match the neum (the q in fqh), see notation, but with the word (et).

Text, gabc without neumatic designation and nabc (neumcode-SG) by Reges Tharsis

OF.V
R
E-ges Tharsis * et in su- læ

```
nabc-lines: 1;
%%
(c3)RE(h|vi>ls12ls16)ges(fh|pelsm2) Thar(h|vilse4)sis(hhh|///ts-hk|hv|///vi-hklse2|///hhh|///ts-hm) *(,)
et(fh|peS1si8) in(hhh|ts-|jvIH|cihhls12lsc3)su(hvGF|ci)læ(fhGFh|vippt1su2lse7vihg) (;)
```

Note!For the neumcodes of St Gallen see p37-40 .In the headings: nabc-lines: 1; add .

After the text, put notes and neumes together between brackets.

And between the notes and the neumes a vertical line '}' .

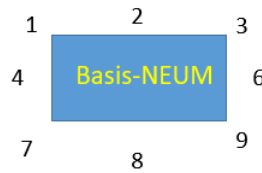
The slashes '/' are used here to prevent the neumes from entangling.

1.2.2 Full text, gabc and nabc (neumcode-SG) by Reges Tharsis



ffertorium Reges Tharsis - text(gabc|nabc)

name: Offertorium Reges Tharsis;
 commentary: Ps.71,10.11;
 user-notes: GT 58 - Epiphania Domini ;
 annotation: OF. V;
 nabc-lines: 1;
 %%



```
(c3)RE(hV>|vi>lsl2lsi6)ges(fh|pelsm2) Thar(h|vilse4)
sis(hsss|///ts-hk|hv|///vi-hklse2//hsss|///ts-hm) *(,) et(fqh|peSlsi8)
ín(hsss|ts-|jvIH|cihh|sl2lsc3)su(hvGF|ci)læ(fhGFh|vippt1su2lse7vihg) (;)
mú(d!efivHG|vippt3sut2lsi7lsl2lst6)(z) ne(hggofg|cl!prvihi)ra(gf|cl-)
óf(gxdf!gvFE|vihppt2su2lsi7lsm2lsc3)fe(feeode|cl!prvihh)rent:(ed|cl-lst2) (:) re
(fV>|vi>lsi9)ges(e|ta) A(ef!gvgf|tgpp2lse7)ra(ef!hhvFE|tgS3pp2)
bum(feeod|cl!pilst3) (,) et(dqe|peSlse7lsm2) Sa(f|vi)(z)ba(hig|///hvFE|
toS2lsal7|///vihisu1sut1lsi2|/highvFE|/toS2hhsl1/ciS1lsi2|eod|///pilst2) (;)
do(fqhhsssi|peSls4lsm7ts-hivihlss2)na(i|/vilse1)
ad(hsss|tslsi2)dú(hi!jvIHG|vihmpp2su1sut2lst8|hvGFg|ci-vi)cent:(gf|cl-) (:)
et(hf|clsl2) a(h|vi)do(hi|pe)(z)rà(ivhieh|vi-toS2hhsl7clM-hhlst2lsi8)bunt(fhg|to>1)
e(hg|cl-lss9)um(highvFD|to!ciGlsi3lsi9) (;)
om(dqf|peSlsi7lss2)nes(fe|cl-) re(f!hsss|vi-//ts>hh)ges(fe|cl-lst2)
ter(egFEfe|vippt1su2lse7cl)ræ,(e|ta) (:)(z)
Om(f|vi-lsal1|///h|///toS2hilx8lsp2lst3|///hshs>|///ds>hilss6) nes(ef/gf|///sf-)
gen(f!hihshs>|tohhppt1lse7ds>lss6)tes(ef/gf|sf-) (;)
ser(fh|ih|/cl>ppt2lse7lsi6)vi(gxf!hhf|///tghppt1|/ge|clhilsc3lsi8)
ent(de/fhf|to>pp2lsi7) e(gxegFE|vippt1su1suw1lsc3|fd|cl)i.(d|ta) (::)
```

In this gabc file there are square notations, which are different from the normal squared form and which take on a 'neumatic' shape, depending on the neum that goes with it.

The litterae significativae around Fig. Basis-NEUM have a place number.

On the 1st line, the littera significativa has 'levare' place 2 (lsl2) - 'iusum' place 6 (lsi6).

These litterae are placed immediately after the neum name.

To move the neumes horizontally to the RIGHT use one or more '/'. To the LEFT '“'.

The neumes can be set higher or lower with a fictional scale

of a-m, n and p, hf = default. h = height comes before the ls place, immediately after the neum.

For long neumes it is best to opt for an alternating split of square notation and matching neum.

Take vi from servient: notelneum|notelneum-> gxf! Hhf | /// tghppt1 | / ge | clhilsc3lsi8 ->

gxf! hhf is a square notation: at place g (si) there is a mole, at f (la) an ordinary punctum.

The exclamation mark '!' moves the next note to the right, do at position h, then hf (dola).

This group includes the neum trigonum praepunctum1, placed after a 'l' tgppt1,

neum, which is placed at a somewhat higher (hi) relative height for clarity.

The '///' means that the neum moves to the right; often this is decided 'post hoc'.

After a second 'l' follows a note part again and then after 'l' the neumcodes:

Move 'ge' (si mol, sol) up with '/' to the right, after 'l' put the 'cl' clivis at the relative height 'hi' and finally two litterae: celeriter in place 3 and iusum in 8.

The Decorative letter of the Offertorium can be made with a template p. 25. >

Offertorium Reges Tharsis

GT.58 - In Epiphania Domini

Ps. 71, 10. 11

OF V

R

E- ges Thar- sis * et ín- su- læ mú-
 ne- ra óf- fe- rent: re- ges A- ra- bum et Sa-
 ba do- na ad- dú- cent: et a- do-
 rá- bunt e- um om- nes re- ges ter- ræ,
 Om- nes gen- tes sér- vi- ent e- i.

Ps. The gabc notation of this song is on the previous page.

hi hm

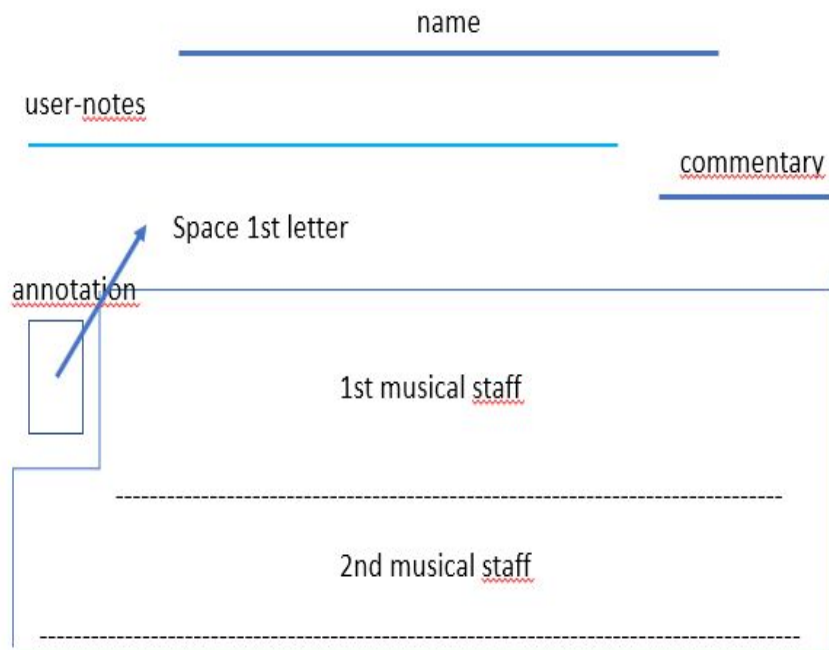
hf

4
3
2
1

Note in this code the relative height (a-m, n and p) of the neum ABOVE.
 see Fragment from "GregorioNabcRef.pdf p2,3,5 (Jacub Jelinek)" p36
 The horizontal move of the neum is done by '/' to the right and to the left by ''''
 For the location of the ls (litterae significativae) see fig. 'Basis-Neum' p14.

1.3 The Gregorian Chant Engraver.

1.3.1 Diagram of a score



	Resources gabc tutorial gabc reference one-page summary demo video
Paste your Gregorio gabc file in the box:	
The header lines for <i>name</i> , <i>annotation</i> , <i>user-notes</i> , <i>mode</i> , and <i>commentary</i> produce markup for the output page.	
<i>name</i> : page title <i>commentary</i> : right-justified text above first line <i>user-notes</i> : left-justified text above first line <i>annotation</i> : small text above initial capital <i>mode</i> : the mode, indicated as an Arabic numeral; it will be displayed as a Roman numeral (note: only one of <i>mode</i> and <i>annotation</i> may be used at a time in this system.)	
<div style="border: 1px solid black; height: 60px; width: 100%;"></div>	
Scaling factor for music: 17 ▾ Lyric font size: 12 ▾ Initial size: 43 ▾ Space above lines: 7mm ▾ Red staff lines? N ▾ Staff line thickness: 10 ▾ Paper size: letterpaper ▾ Typeface: libertine ▾ Crop margins: N ▾ Alternate punctum cavum: N ▾ Initial style: 1 ▾ Automatic custos: Y ▾	
<input type="button" value="Submit"/>	

Engraver

Place your 'gabc' in the empty window and click on 'submit'.
The 'Server' sends you a score in PDF format.

1.3.2 The headings or what precedes the singing

Headings for the gabc file

heading :	description;
name:	name of the song;
commentary:	biblical origin of the text;
user-notes:	book and day of use;
annotation:	liturgical place and mode; ^a
mode:	the mode;

^ause either annotation or mode

Each heading starts with a small letter and ends with a colon: the description ends with a ;

example 'gabc' with headings

name: Offertorium Reges Tharsis;
 commentary: Ps.71,10.11;
 user-notes: GT 58 - Epiphania Domini ;
 annotation: OF. V;

%%

(c3)Re(h)ges(fh) Thar(h)sis(hhh/hv/hhh) et(fh) in(hhh/jvIH)su(hvGF)lae(fhGFh) (:Z)

Open the items 'Resources' at the top right: they contain interesting information.

Paste your 'gabc' with or without headings in the empty window, click 'submit': 'pdf' with score follows.

>

1.3.3 Select the option(s) here, which will change the appearance of the song

Scaling factor for music: 17 ▾
 Lyric font size: 12 ▾
 Initial size: 43 ▾
 Space above lines: 7mm ▾
 Red staff lines? N ▾
 Staff line thickness: 10 ▾
 Paper size: letterpaper ▾
 Typeface: libertine ▾
 Crop margins: N ▾
 Alternate punctum cavum: N ▾
 Initial style: 1 ▾
 Automatic custos: Y ▾

Submit

1.3.4 List and explanation of the options offered by the 'engraver'.

Options for the 'engraver'

option	description
Scaling factor	note size in pt
Lyric font size	size of the latin text in pt
Initial size	size of the 1st letter in pt
Space above line	white part above staff line in mm
Red Staff line	the lines are colored red
Barline thickness	the thickness of a line in pt
Paper size	A4, A5, Stationery (drop down list)
Font	Print Font (drop down list)
Crop margin	in case of y there are no margins
Alternative cavum punctum	modification of the cavum punctum
Initial style	space 1st letter - if = 0 gn separate 1st letter *
Automatic custos	Yes or no (manual)

^a=gresetinitiallines p28

*As far as the non-diastematic neumes are concerned,
 only those of St Gallen can be printed with the 'engraver'.
 But with TexLive on your PC you can also print the Laon ones (see p41).*

>

1.3.5 Error messages

When using the engraver, you may receive an error message (see image) instead of a score. **Especially the first lines in the error message can give a 'hint'. Usually what follows is the cause.**

1. A writing error of note or neum code, using a character that is not a code.
2. Forgotten: %% at the beginning of gabc notation.
3. An '(' or ')' too much or too little at the note display after the text.
4. A '|' forgotten as a separation between notes and neumes.
5. When using headings, a: or; forgotten-first letter of heading must be small. ^a
6. Write Gabc notation in a formatting word processor, such as 'WORD' e.g.
7. Copying from PDF to the engraver sometimes gives errors due to transfer of formatting characters.
Note: Write your notations and codes in a unformatting text editor.

^acfr rules headings

Whenever you place a gabc file in the engraver, you must put %% before the notes.

After this sign follows between brackets (the music clef)

Then the first syllable text, followed between brackets (the note code).

After a word there is a blank space. At the end of the song, put a pause sign (summary p33), (: :) also between brackets.

Even before this sign (%%) it is best to state in the headings:

the name of the song, not strictly necessary for the gabc file. See options engraver. (P18)

%%

```
(c3)RE(h|vi>lsl2lsi6)ges(fh|pelsm3)
Thar(h|vilse4)
sis(hshshs>hv//hshshs>|dsstSvi-
lseldsstS) *(,)
et(fqh<|peSlsi7)
* -->ín((hshshs>jvIH|dsstScihhsl2lsc3)
su(hvGF|ci)læ(fhvGFh|vippt1su2lse7vihg) (;)
mú(d!efivHG|vippt3sut2lsi7lsl2lst6)
ne(hggofg|cl!pivihh)ra(gf|cl-)
óf(gxdf!gvFE|vihppt2su2lsi7lsm2lsc3)
fe(feeode|cl!pivihh)rent:(ed|cl-
lst2) (:)
```



The error message indicates '(' : See after * --> the syllable 'in')

>

1.3.6 Score made with the 'engraver'

Offertorium Reges Tharsis

GT 58 - In Epiphania Domini

Ps. 71, 10. 11

OF - V

R Eges Tharsis et in- su- lae mú- ne- ra óf- fe- rent: reges A- ra- bum et Sa- ba do- na ad- dú cent: et ado- rá- bunt e- um omnes re- ges ter- rae, * o- mnes gen- tes sér- vi- ent e- i.

```
%%
(c3)RE(h)ges(fh)
Thar(h)sis(h[ob:1;6mm]hh//hv_1/h[ob:1;6mm]hh)
et(fqh_) in(h[ob:1;6mm]hhjvIH)
su(hvGF)lae(f_1hvGFhv.) (,)
mú(D!E!F_ivHG_)(z)ne(hVggoFgv.)ra(g_f_)
óf(gxDF_!gvFE_04)fe(fVeeoDev.)rent:(ed_)(:)
re(f)ges(e)A(EF!GvGgF_04)
ra(EF!HHFE_)bum(feeoD.) (,)
et(dqe_) Sa(f)(z)
ba(hig/hvFE_04//hig/hvFEe[cs:s]d) (;)
do(fh/h[ob:1;3mm]h/hi)na(i_14)
ad(hhh[cs:s])dú(H!I!jvIH_13G_15hv.GFgv.)
cent:(gf_)(:) et(hf)
a(h)do(hi)(z)rá(iv_14hih_0h_1e)bunt(fhg)
e(h_g_)um(highFD_)(;)
o(df)mnes(f_e_) re(f/h[ob:1;6mm]hh)ges(f_e_)
ter(e_1gvFEfe)rae,(e.)*(:)(z)
o(f_1/hih[ob:1;6mm]hh)mnes(EF/g_f_)
gen(f_1/hih[ob:1;6mm]hh)tes(EF/g_f_)(;)
sér(FH/i_h_)vi(gxf/h[ob:1;3mm]hf/ge)
ent(DE/fhf) e(gxe_1/gFEfd)i.(d)(:)
```

>

name: page title
commentary: right-justified text above first line
user-notes: left-justified text above first line
annotation: small text above initial capital
mode: the mode, indicated as an Arabic numeral; it will be displayed above the first line of music
 (note: only one of *mode* and *annotation* may be used at a time in a line)

```
name: Offertorium Reges Tharsis;
user-notes: GT58 - In Epiphania Domini;
commentary: Ps.71,10.11;
annotation: Of - V;
%%
(c3)RE(h)ges(fh) Thar(h)sis(h[ob:1;6mm]hh//hv_1/h[ob:1;6mm]hh)
/h[ob:1;6mm]hh)
et(fqh_)
in(h[ob:1;6mm]hhjvIH)su(hvGF)lae(f_1hvGFhv.) (,)
mú(D!E!F_ivHG_)(z)ne(hVggoFgv.)ra(g_f_)
óf(gxDF_!gvFE_04)fe(fVeeoDev.)rent:(ed_)(:)
```

Scaling factor for music: 17 ▾
 Lyric font size: 12 ▾
 Initial size: 43 ▾
 Space above lines: 7mm ▾
 Red staff lines? N ▾
 Staff line thickness: 10 ▾
 Paper size: a4paper ▾
 Typeface: libertine ▾
 Crop margins: N ▾
 Alternate punctum cavum: N ▾
 Initial style: 1 ▾
 Automatic custos: Y ▾

Submit

For practice:

Clef at will with this gabc notation
 and compare with the gabc notation on p9
 See for choral sign 'bow' one-page summary
 'Resources' in the 'engraver'.

Gregorio on your PC

Installation of 'gregorio' on your PC and configuration of the editor - p23-24

What is a 'template' and what are 'packages'? - p25-27

The location of the 'gregoriotex' package in the template - p28-29

The result after activating this template - p30-31.

Chapter 2

Working with Tex and gregoriotex on your own PC.

To work with gregorio on your PC, without the help of the Chant Engraver, you need to install TexLive on your PC and work with a 'Template'.
This is a grid to place a gabc file in.

Here is a simple 'Template'

```
% !TEX TS-program = lualatex - !TEX encoding = UTF-8
% This is a template for a LuaLaTeX document using gregorio scores.

\documentclass[a4paper,12pt]{ article }
\usepackage{ fontspec }
\usepackage{ gregoriotex }
% here we begin the document
\begin{document}
% simplify commands
\newcommand{\cent}[1]{\begin{center}#1\end{center}}
\newcommand{\side}[1]{\begin{flushleft}#1\end{flushleft}}
% The title:
\cent{\begin{LARGE}{Offertorium Reges Tharsis}\end{LARGE}}
\gresetgregoriofont [op]{ greciliae }
\grechangestaffsize {17}
\grechangestyle { initial }{ \fontsize {43}{43} \selectfont \relax }
% Here we set the space around the initial.
\grechangedim{ beforeinitialshift }{3.2mm}{scalable}
\grechangedim{ afterinitialshift }{3.2mm}{scalable}
% We set Of and V above the initial- will overrule annotation in gabc file
\greannotation{ \small \textbf {OF – V}}
\side { \small GT 58 – In Epiphania Domini }
% We type a text in the top right corner of the score:
\grecommentary[5mm]{\emph Ps. 71, 10. 11 }
% and finally we include the score.
\gregorioscore[a]{gabc/RT_E2}%name of the gabc-file,without extension .gabc.
\end{document}
```

On the following pages: the installation of Tex Live on your PC

2.1 Install Tex on your PC

2.1.1 Installation for MS Windows

<http://gregorio-project.github.io/installation.html>
<http://gregorio-project.github.io/installation-windows.html>

1. Install TeXLive 2019:

Click on "the official site" in this website

Unzip the downloaded file = install -tl.zip → 3 options

Choose the first option (simplest -takes 4GB): install -tl.bat
(It is best to switch ANTIVIRUS progr off in advance.)

And say "yes" all the time of the installation (takes + -2h)

When TeXLive is installed, RESTART the PC.

2. Texlive 2019 already contains gregorio version 5.2

3. To use gregorio you need an "Editor". TeXLive

it contains one = TeXWorks. In your program file open TeXWorks.

Look up lua_lat_ex in your texlive folder.

Choose Edit → preferences → typesetting → LuaLaTeX

(+ se) add in bottom window and press

"+": first is --shell-escape, second is \$ sync_texoption, third is \$ full_name.

Press Ok. Then Restart TeXWorks.

4. Situate "gregorio program" in your texlive folder.

Configure it like lua_lat_ex.

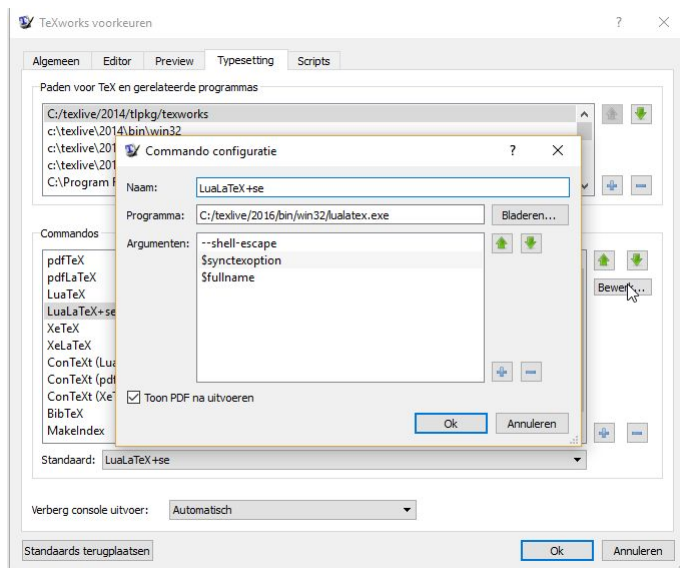
To create a score: Open TeXWorks and check LuaLaTeX + se in Typeset.

Choose the template (p22) and change the command: `\gregorioscore[a]{gabc/name}`,
'gabc' is the name of the folder where you store your gabc files.

The extension '.gabc' after the name (name.gabc) should not be mentioned.

Place this template in the editor 'TeXWorks' and save it in your workmap.

Then click on the green arrow in the editor. Your TeX file (template) is compiled and converted into a score in PDF format. (p25 ...)



2.1.2 Installation for MAC

OPEN THE FOLLOWING WEBSITE

<http://www.tug.org/mactex/index.html> Download the MacTeX-2019 Distribution. Once the file (4Gb) has been downloaded, click 2x on MacTeX.pkg to start the installation. TexLive is included in this installation, as well as LATEX and gregoriotex. 2019 version gregorio 5.2 included. Choose TexShop as 'Editor'. The configuration has already been done. When downloading a version of 'gregorio', which is not supplied with the above MacTeX download, you must Update TexShop. With the delivered gregorioversion (see /users/shared/gregorio/contrib /TexShop) Here is the file: lualatex + se.engine, copy this file to /libraries/TexShop/Engines. The next time you start TexShop this file will be 'lualatex + se.engine' in the droplist. See also URL:

<https://gregorio-project.github.io/configuration-texshop.html>

2.1.3 Installation under Linux (Ubuntu)

There are several ways.

<https://www.tug.org/texlive/acquire-netinstall.html>

or type in your browser: install Texlive via ppa

Install TexLive via PPA (personal package archive). Type in Terminal:

```
sudo add-apt-repository ppa: jonathanf/texlive
```

```
sudo apt update
```

```
sudo apt install texlive-full
```

Install the 'EDITOR' TexWorks as follows:

```
sudo apt update $$ sudo apt install texworks
```

TexWorks configuration:

Open TexWorks.

Choose edit preferences – typesetting

1. Lualatex: choose command lualatex and open edit: write as program name: lualatex + se.

Look in browse for the location of the file lualatex: usually in usr-bin and click it.

Then press + and write --shell-escape press ok, you will see the following in the window:

–at the top --shell-escape

then \ \$ synctexoption

then \ \$ fullname

At the bottom next to 'Standard' in the window you will see lualatex + se.

2. gregorio: Choose in command gregorio, if not on the list: open edit and put

gregorio as program name—then browse, find the location of gregorio,

usually in usr local bin and click it

Then press + and write in the window: --shell-escape.

Close TexWorks and restart. The editor is now ready for the template.

>

2.2 About a template

```
% !TEX TS-program = lualatex- !TEX encoding = UTF-8
% This is a template for a LuaLaTeX document using gregorio scores.

\documentclass[a4paper,11pt]{ article } % use larger type; default would be 10pt
%usual packages loading
\usepackage[French]{babel}% language loading between square brackets-the default is 'english'
\usepackage{ fontspec }
\usepackage{ graphicx }%for import of images(includegraphics)
\usepackage{ color }
\usepackage{ gregoriotex } % for gregorio score inclusion
\usepackage{ fullpage } % to reduce the margins
\begin{ document}% here we begin the document
\pagestyle {empty}
%Simplify your commands
\newcommand{\red}[1]{\textcolor{red}{#1}}
\newcommand{\black}[1]{\textcolor{black}{#1}}
\newcommand{\cent}[1]{\begin{center}{#1}\end{center}}
\newcommand{\lside}[1]{\begin{flushleft}{#1}\end{flushleft}}%left is a reserved word-use lside
%input the fonts
\input AnnSton.fd%cfr Latex fonts
\input Acorn.fd
\newcommand\initfamily{\usefont{U}{Acorn}{x1}{n}}
\newcommand\yourfont{\usefont{U}{AnnSton}{x1}{n}}
% The title:
\lside {\begin{small} \textbf {Of.}\red{R}\black{eges Tharsis}}\end{small}}
\cent {\LARGE{\begin{yourfont}\red{O}\end{yourfont}}\black{ffertorium Reges Tharsis}}
```

As nabcfont we choose 'gregall' with 10 as size- or 'grelaon' for the neumes of Laon

```
\gresetnabcfont { gregall } {10}%cfr gregorioNabcRef.pdf
\gresetgregoriofont [op]{ grecliaie }%cfr gregorioRef.pdf
\grechangestaffsize {19}%17 is Solemnnes size
\gresetbarspacing{ new } %insread of gresetbarspacing(old)
\grechangedim{ maxbaroffsettextleft }{0 cm}{scalable}%
\vspace{0.2cm}
% Here we set the space around the initial.
\grechangedim{ beforeinitialshift }{3.2mm}{scalable}
\grechangedim{ afterinitialshift }{3.2mm}{scalable}
% Here we set the initial font. Change 43 if you want a bigger initial.
\grechangestyle { initial }{ \initfamily \fontsize {36}{36} \selectfont \color {red}}
%A MINIATURE CAN ALSO BE PLACED INSTEAD OF THIS INITIAL - PAGE 29
% We set linecolor.
\gresetlinecolor {black}
% We set OF and V above the initial- will overrule annotation in gabc file
\greannotation{\small \textbf {OF – V}}
\lside {\small GT.58 – In Epiphania Domini – \today}
% We type a text in the top right corner of the score:
\grecommentary[8mm]{\emph Ps. 71, 10. 11}
% and finally we include the score. The file must be in the same directory as this one.
\gregorioscore [a]{gabc/RT_N26}%note about gregorioscore P.28,29
\cent { \greseparator {2}{20}}
\end{ document}
```

Score on p.30

2.2.1 The preamble

```
% !TEX TS-program = lualatex- !TEX encoding = UTF-8
% This is a template for a LuaLaTeX document using gregorio scores.

\documentclass[a4paper,11pt]{ article } % use larger type; default would be 10pt
% usual packages loading:
\usepackage[French]{babel}%the default is 'english'
\usepackage{ fontspec }
\usepackage{ graphicx }%for import of images(includegraphics)
\usepackage{ fullpage } % to reduce the margins
\usepackage{ color }
\usepackage{ gregoriotex } % for gregorio score inclusion
\definecolor {Blue}{rgb}{ 0.3,0.3,0.9 }
\pagestyle {empty}
```

A Template is a collection of commands = a TeX file, which after compilation produce a 'PDF'. This operation is performed by clicking Run in the 'Editor' that contains the template. This Tex file (template), together with the gabc file located in the same folder, produces a score in PDF format.

A template consists of two parts :
Part 1: The 'preamble' contains information that applies to the entire document.
Part 2: the 'document' containing the necessary commands.
Some commands require the user to enter the so-called variables .

Usually there are two lines at the top of the template, just above the preamble preceded by a '%' sign
%! Tex TS program = lualatex
TS stands for TexShop, TexWorks and TexStudio and all three are ' editor '.
Lualatex is the program (called Engine) that executes the commands in the template, resulting in a score.
%! Tex encoding = UTF-8 (Unicode TransFormation- 8 bits, best suited for Latin)
These announcements follow a '%' and do not play a role in the execution of the texfile.

Actually beginning of the preamble:

\documentclass: is the start of the template. Here you have to specify what you will do. An article, a report, a book. So eg **\documentclass**{ article }
after **\documentclass** between [] put options, such as: a4paper, 12pt (size of sheet and letter)
% usual packages loading
Each package is a collection of commands (macros) that can be used in the document.
With the fontspec package you can easily use OT and TT printing types (Open Type and TrueType fonts)
Graphics allows you to place images in your document.
Choose the option eg [dutch] for package {babel} to put your date in Dutch, or any other language. Without indication between square brackets, English is used.
Color allows more colours. Fullpage reduces margins.
With Gregoriotex package you make the Gregorian chant.
\pagestyle {empty} this will not print page numbers in your document.

>

2.2.2 The document and the latex commands.

The SMALLEST TEMPLATE:

```
\documentclass{ article } %obligatory - on 'preamble' level
\begin{document} %start of 'document'
Hello world. %any text
\end{document} %obligatory end of document
```

These 4 lines in an editor upon execution give -> Hello world
Analysis of the document:

```
\begin{document}
%Simplify your commands
\newcommand{\red}[1]{\textcolor{red}{#1}}
\newcommand{\black}[1]{\textcolor{black}{#1}}
\newcommand{\cent}[1]{\begin{center}{#1}\end{center}}
\newcommand{\lside}[1]{\begin{flushleft}{#1}\end{flushleft}} %left is a reserved word-use lside
%input the fonts
\input AnnSton.fd %cfr Latex fonts
\input Acorn.fd
\newcommand{\initfamily}{\usefont{U}{Acorn}{xl}{n}}
\newcommand{\yourfont}{\usefont{U}{AnnSton}{xl}{n}}
% The title:
\lside {\begin{small} \textbf {Of.} \red {R}\black{eges Tharsis }}\end{small}}
\cent {\LARGE{\begin{yourfont}\red {O}\end{yourfont}}}\black{ffertorium Reges Tharsis }}
% NOTE: below the gregoriotex commands, which we discuss on p28,29.
\end{document}
```

We discuss the regular latex commands here.

1. Simplify commands: Create macro.

To make a long command short e.g.

```
\begin{center} ... text ..\end{center} replaced by the command: \cent{ ... }
\newcommand{\cent}[1]{\begin{center}{#1}\end{center}}
```

Similarly **\lside** { ... } = **\begin** { flushleft } **\end** { flushleft } through the macro:

```
\newcommand{\lside}[1]{\begin{flushleft}{#1}\end{flushleft}}
%left is a reserved word-use lside instead
```

2. In Regular Latex Fonts you will find special Printing Types: including Acorn.

To load this type: **\input** Acorn.fd (font definition)

With a **\newcommand** we shorten the command line again.(see above)

What follows are \gregoriotex commands, to be discussed separately further .

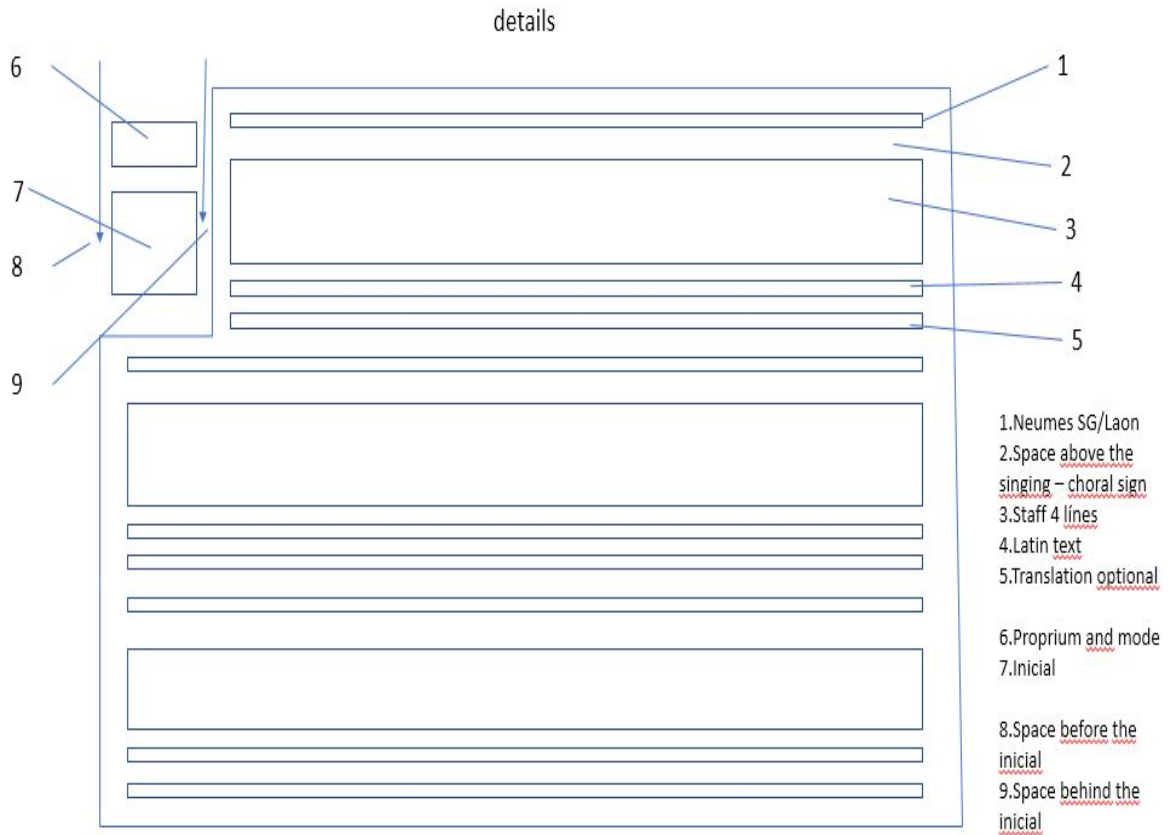
The following website contains detailed explanation about 'preamble' and 'document'

<https://upload.wikimedia.org/wikipedia/commons/2/2d/LaTeX.pdf>—>LATEX Guide

After a % follows a remark - After a \ a command.

>

2.2.3 Gregoriotex commands for the score



a

```

\gresetnabcfont { gregall } { 10 } %cfr gregorioRef.pdf - Nr.1
\gresetgregoriofont [op] { gregiliae } %cfr gregorioRef.pdf
\grechangestaffsize { 19 } %17 is Solemnnes size
\gresetbarspacing { new } %ipv gresetbarspacing(old)
\grechangedim { maxbaroffsettextleft } { 0 cm } { scalable } %
\grechangedim { spaceabovelines } { 0.5cm } { scalable } – Nr. 2
% Here we set the space around the initial.
\grechangedim { beforeinitialshift } { 3.2mm } { scalable } – Nr. 8
\grechangedim { afterinitialshift } { 3.2mm } { scalable } – Nr. 9
% Here we set the initial font. Change 43 if you want a bigger initial.
\grechangestyle { initial } { \initfamily \fontsize { 36 } { 36 } \selectfont \color { red } } – Nr. 7
\gresetinitiallines { 1 } %space for the 1st letter - default=1 - if=0 no initial
% We set OF and V above the initial- will overrule annotation in gabc file
\greannotation { \small \textbf { OF – V } } – Nr. 6
\links { \small GT.58 – In Epiphania Domini }
\grecommentary [8mm] { \emph Ps. 71, 10. 11 } % text in right corner of the score:
\gregorioscore [a] { RT_N26 } % and finally we include the score - see p29
\cent { \greseparator { 2 } { 20 } }

```

^aif you wish neumes 'Laon' put 'grelaon' instead of 'gregall' cfr p42

<https://github.com/gregorio-project/gregorio/releases>

Open the above mentioned and find the GregorioRef and GregorioNabcRef PDFs

Package van `\gregoriotex`

command	argument	description
<code>\gresetgregoriofont</code>	<code>[op]{greciliae}</code>	print type of the square notes
<code>\grechangestaffsize</code>	<code>{19}</code>	size of the notes (Solesmes = 17)
<code>\gresetlinecolor</code>	<code>{red}</code>	color of the lines, default = black
<code>\grechangedim</code>	<code>{beforeinitialshift}{3.2mm}</code>	blank space for the initial
<code>\grechangedim</code>	<code>{afterinitialshift}{3.2mm}</code>	blank space after the initial
<code>\grechangestyle</code>	<code>{initial}{}</code>	1st text letter, default = black Capital letter
<code>\gresetinitiallines</code>	<code>{1}</code>	space for 1st letter - default = 1 - if = 0 no initial
<code>\grechangedim</code>	<code>{spaceabovelines}{0.5cm}</code>	space above the line
<code>\gresetbarspacing</code>	<code>{new}</code>	placement bar at = height of * star
<code>\grechangedim</code>	<code>{maxbaroffsettextleft}{0}</code>	id reason as above
<code>\grechangestyle</code>	<code>{translation}{\small\it}</code> ex:small italic	printing method translation text between the } fill in
<code>\greannotation</code>	<code>{Of - V}</code>	liturgical moment and mode
<code>\grecommentary</code>	<code>[5mm]{Ps. ...}</code>	biblical text origin
<code>\gregorioscore</code>	<code>[a]{of_reges_tharsis}</code>	location of the gabc file
<code>\greseparator</code>	<code>{2}{20}</code>	type of decoration (height, length)

The Swash (Ornamental letter) as initial letter is determined by the command: `\grechangestyle{ initial }{}`

Between these last 2 brackets {See appendices: brackets }

comes font size and type of this letter .\

`\grechangestyle { initial }{ \initfamily \fontsize {36}{36} \selectfont \color {red} }`

Here you are using with 'initfamily' a short name for the fonttype 'Acorn.fd'

you loaded before -> `\newcommand{\initfamily}{\usefont{U}{Acorn}{xl}{n}}`

You fill in the size : 'fontsize' {36} - in 'pt' 1pt = 0.35mm - `\selectfont \color`

`\grecommentary [5mm]` this text is 5mm above the song

`\gregorioscore [a]{gabc/RT_N26}`: [a] = automatic conversion from gabc to gtex (p47)

gabc/ is the name of the directory that contains file RT_N26 (gabc extension omitted).

2.2.4 Error messages in the editor when compiling the Template

1. In the error message window, the line number is indicated where the error occurs
2. List a start command without end command. Consult 'LaTeX'
3. If you do not enter anything between two{} - must always contain an argument.
4. The number { is not equal to the number } cfr appendices - parentheses.

2.2.5 Score after compilation of the template

Of.Reges Tharsis

Offertorium Reges Tharsis

GT.58 - In Epiphania Domini - July 2, 2020

Ps. 71, 10. 11

OF - V

R E- ges Tharsis * et in su- lae mu-
ne- ra of fe- rent: re- ges A ra- bum et Sa-
ba do- na ad- du cent: et a- do-
ra- bunt e- um omnes re- ges ter- rae,
Om- nes gen- tes ser- vi- ent e- i.

2cm

This is the score of the template on p25.

On the next page you will find the same template, but now with a miniature as the 1st letter.

This miniature is an 'image' with extension *.jpg or *.png, and is located in the 'images' folder.

>

2.2.6 Reges Tharsis with miniature 1st letter and snippet (= piece of gabc notation)

```

\documentclass[a4paper,11pt]{ article } % use larger type; default would be 10pt
\usepackage[French]{babel}%or any other language- default is English
\usepackage{graphicx}%for import of images and graphics
\usepackage{color}
\usepackage{gregoriotex} % for gregorio score inclusion
\pagestyle{empty}
\begin{document}
\newcommand{\red}[1]{\textcolor{red}{#1}}
\newcommand{\black}[1]{\textcolor{black}{#1}}
\newcommand{\cent}[1]{\begin{center}#1\end{center}}
\newcommand{\lside}[1]{\begin{flushleft}#1\end{flushleft}}%left is a reserved word
\input AnnSton.fd%cfr Latex fonts
\input Acorn.fd
\newcommand\initfamily{\usefont{U}{Acorn}{xl}{n}}
\newcommand\yourfont{\usefont{U}{AnnSton}{xl}{n}}
\cent {\LARGE{\begin{yourfont}\red{O}\end{yourfont}}\black{ffertorium Reges Tharsis }}
\gresetgregoriofont [op]{ grecliae }%cfr gregorioRef.pdf
\grechangestaffsize {19}%17 is Solemnnes size
\gresetbarspacing{new} %instead of gresetbarspacing(old)
\grechangedim{ maxbaroffsettextleft }{0 cm}{scalable}%
\grechangedim{ beforeinitialshift }{3.2mm}{scalable}%
\grechangedim{ afterinitialshift }{3.2mm}{scalable}%
\gresetinitiallines {1}%the number of lines necessary for the initial - default = 1 - if = 0 no initial
\greillumination { \includegraphics [ scale=0.6]{images/Remin} }%GreIllumination - here image
\lside { \small GT.58 – In Epiphania Domini – \today }\\
\hspace{0.5cm}OF – V
\grecommentary[8mm]{\emph Ps. 71, 10. 11 }
\gabcsnippet{(c3)RE(hV>)ges(fh)
Thar(h) sis (// hsss/hv/hsss) *(,) et (fqh) in(hsss/jvIH)su(hvGF)lae(fhGFh) (;)
mu(d!efivHG)ne(hggofg)ra(gf) of(gxdf!gvFE)fe(feecode) rent :(ed) (:)}
\end{document}

```

Offertorium Reges Tharsis

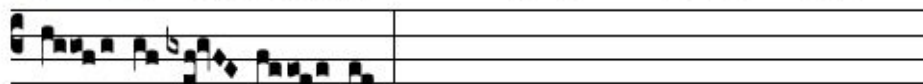
GT.58 - In Epiphania Domini - July 2, 2020

OF - V

Ps. 71, 10. 11



E-ges Tharsis * et in- su- lae mu-



ne- ra of- fe- rent:

>

Appendices

Appendix A

Notes en Neumes

SUMMARY of GABC

PITCHES

a b c d e f g h i j k l m

ONE-NOTE NEUMES

g g- G G- g< g> G> gs gs<

gV gv gw go go< go- gr gR gr0

COMPLEX NEUMES

eg ge- eg- -eg ewg ge eqg goe

eog goe- ewg gvv gsss gvF'E- geg

-ege ewge>. geg- dfOh dfh gege egeg

GROUPING / SPACING

fgh f!gh fghv fg!hv f/gh f//gh f gh

CLEFS

c1 c2 c3 c4 f3 f4 cb3 cb4

SEPARATION BARS

, ' ; : :: ,1 ,2 ,3 ,4 ,5 ,6 ; ' _

ALTERATIONS & ACCENTS

gx gy g# gr1 gr2 gr3 gr4 gr5

RHYTHMIC SIGNS

g. h. fg.. gf.. gh.. hg.. g' h'

g_ h_ g_0 h_0 eg_e_ ege_

MISCELLANEOUS

{e}g g+ e[cs:Text]g g[cs:Text]e g[alt:Text]e

SPECIAL CHARACTERS AND TEXT FORMATTING

<sp>V/</sp>	∇
<sp>R/</sp>	℞
<sp>A/</sp>	ℵ
<sp>'oe/</sp>	œ
<sp>'ae/</sp>	æ
<sp>~</sp>	~
*	*
+	+
<v>\grecross</v>	⊕

bold	bold
<i>italic</i>	<i>italic</i>
<u>underlined</u>	<u>underlined</u>
<sc>smallcaps</sc>	SMALLCAPS
<tt>monospace</tt>	monospace

Versatility in the code of square notations

pc punctum quadratum (regular note)
Pc punctum inclinatum (square or diamond-shaped note)
Pc0 left deviating square note (descending)
Pc1 right deviating square note (ascending)

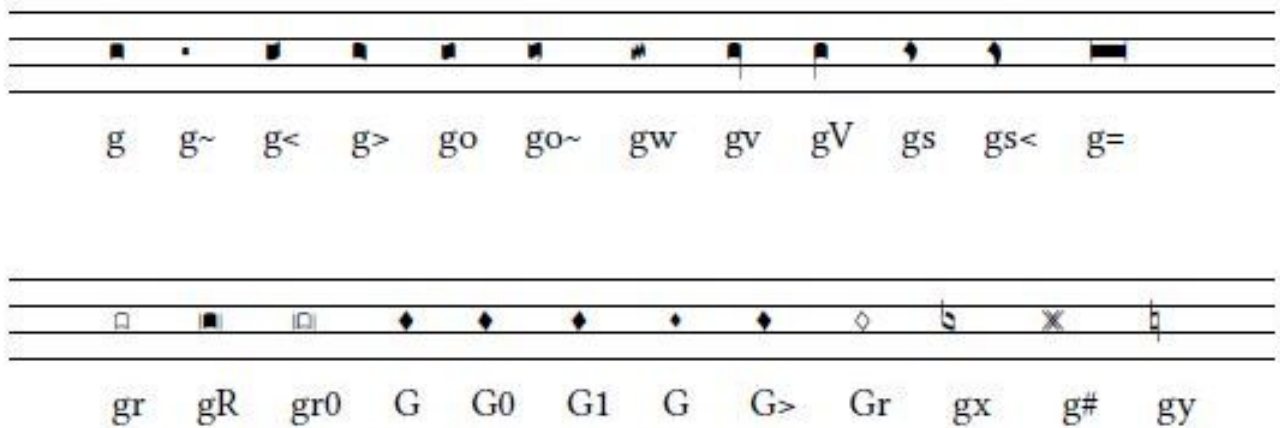
pco oriscus
pcw quilisma
pcv virga (tail right)
pcV virga reversa (tail left)
pcs stropha
pc~ liquescent deminutus (small note)
pc< augmented liquescent - (ascendens)
pc> diminished liquescent - (descendens)
pc= linea
pcr cavum (hollow note)
pcR punctum quadratum with lines on both sides
pcr0 punctum cavum with lines on both sides
pcx bmo1
pc# hash
pcy becard

-pc (hyphes before note) gives an initio debilis



















pc0 oriscus scapus
pcq quadratum
pcW quilisma quadratum
pcss distropha
pcsss tristropha
pcvv bivirga
pcvvv trivirga

Cfr One-page-summary in 'Resources' of the engraver and also in:
GregorioRef.pdf on p247-250 and for 'Font Glyph Tables' p264 on url.

<https://github.com/gregorio-project/gregorio/releases>



Reges Tharsis: notes and neumes of St Gallen

Reges Tharsis et insulae				
Re	ges	Thar	neum designation	nabc code - gabc notation
  .	  .	  .	cefalicus - pes - virga	vi>ls12lsi6 / pelsm3 / vilse4 hV> / fh / h
sis	sis	et	neum designation	nabc code - gabc notation
  .	  .	  .	tristrofa lq - virga ep - tristr lq - pes quad	ts-hh / vi-lse1 / ts-hm / peSlsi7 hshshs> / hv / hshshs> / fqh
in	su	lae	neum designation	nabc code - gabc notation
  .	  .	  .	tristr lq - climacus - tract - clim resup	ts- / cihhls11sc3 / vippt1su2lse7vihg hshshs>/jvIH~ hvGF~ fhGF~h

Abbr.: ls=litterae significativae - ep=episema - lq=liquiscens - /=separator i=iusum - p=parvum - e=equaliter - x=expectare - t=tenerere - m=mediocriter - sut1=1dash sub a=altius - sta=statim - ppt = preceding dash instead of preceding punctum(pp) - l=levare - su1=1subp - su2=subbip

From the 3rd line, 1st and 3rd box, we discuss the nabc codes:







ts tristrofa the 3rd strofa is larger (-) dash after ts

ci climacus hh = relative height of the ci ls1 levare at place 1 lsc3 celeriter at 3

vippt1su2lse7vihg: virga praep1 = 1 dash before the neume (vi)

subbipunctum = 2 points after the neume (vi) - equaliter at position 7 hg = relative height of the neume (vi)

munera offerent

mu	ne	ra	neum designation	nabc code - gabc notation
			sc subbitractuli-cl pressusmaj - virga -cl episema	vippt3sut2lsi7lsl2lst6- cl!prvihi / cl- d!efivHG / hggofg / gf
of	fe	rent	neum designation	nabc code - gabc notation
			sc subbipuncti-cl pressusmajor- virga -cl episema	vihmppt2su2lsi7lsm2lsc2- cl!prvihh / cl-lst2 gxdf!gvFE / feode / ed

Explanation of 2 complex neumatic codes of the 1st box line1 and 2

vippt3sut2lsi7lsl2lst6 :virga prept3=3 precede dash sut2=2dash after, iusum on 7, levare on 2,tenere 6
vihmppt2su2lsi7lsm2lsc2 :vi relative height of hm-2dash(t) before and su2 2puncta after the neum
-iusum on 7,m en c on 2

Explanation of the basic neume: change - vertical position - sub and pre

If Dom Cardine's table contains multiple glyphs with the same modifiers, a positive number is added afterwards. E.g. for augmentive liquescent clivis the table shows two different glyphs, the ancus c1> and then another neume - c1>1, the first neume does not contain any number after it, while the 1 indicates first variant.

The *pitch descriptor* allows to specify the vertical position of the neume. There are no staves, so the vertical position is only rough. For pitches the same letters as in gabc are used, a through n and p. If the *pitch descriptor* is missing, the default is hf, otherwise it consists of the letter h followed by the pitch letter. Within the *complex glyph descriptor*, each *basic glyph descriptor* has its own pitch, but in the current fonts there are no glyphs with different relative pitches, so if you use a *pitch descriptor* on any of the *basic glyph descriptors* in the *complex glyph descriptor*, it is best to use the same one on all the other *basic glyph descriptors* in the same *complex glyph descriptor*.

The *subpunctis and prepunctis descriptor* consists of the letters su for subpunctis or pp for prepunctis, followed optionally by a modifier letter from the following table and finally a mandatory positive number of repetitions. If the modifier letter is missing, it is a punctum.

Fragment from 'GregorioNabcRef.pdf p2,3,5 (Jacub Jelinek)'

Neumes of St Gallen

The nabc language provides the ability to describe some adiaستمatic neumes, for now just the St. Gallen and Laon (Metz notation family) style. The language is partially based on Dom Eugène Cardine's Table of neumatic signs, but for more complex neumes doesn't always match how the neumes are called; instead attempts to make it easier to compose complex neumes from basic glyphs. To describe adiaستمatic neumes in gabc, the header should contain nabc-lines: 1; line, like:

```
nabc-lines: 1;
(f3) AL(ef-|ta>)le(fg/hggf|pec|hgpi)lú(ef-|ta>)ia.(f.|ta-) (,)
(ii//|bv-|gh!ivHG//|vi-hppu2su1sut1|fhg/|to|eef.|pt) (;)
```

The nabc snippets are then separated by | character from gabc snippets or other nabc snippets. Every gabc snippet may be followed by multiple nabc snippets. The maximum number of consecutive nabc snippets is the number declared in the header field nabc-lines: x;. After reaching that number of consecutive nabc snippets another gabc snippet followed by nabc snippets can follow. A single nabc snippet is not split into multiple lines, so for larger melismatic pieces it is desirable to synchronize the gabc snippets with corresponding nabc snippets. With nabc-lines: 1; the gabc and nabc snippets form an alternating pattern, like (gabc|nabc|gabc|nabc|gabc), in this case the last gabc snippet does not have any corresponding nabc neumes. With nabc-lines: 2; the snippets ordering could be e.g. (gabc|nabc1|nabc2|gabc|nabc1).

Each nabc snippet consists of a sequence of *complex neume descriptors*. Each *complex neume descriptor* consists of optional *horizontal spacing adjustment descriptor*, then *complex glyph descriptor*, optionally followed by a sequence of *subpunctis and prepunctis descriptors*, optionally followed by a sequence of *significant letter descriptors*.

The *horizontal spacing adjustment descriptor* consists of a sequence of horizontal spacing adjustment characters / and `.

- // move by nabcclargerspace skip to the right
- / move by nabcinterelements space skip to the right
- `` move by nabcclargerspace skip to the left
- ` move by nabcinterelements space skip to the left

The *complex glyph descriptor* consists of a *glyph descriptor*, optionally followed by a sequence of other *glyph descriptors*, all separated by the ! character. This is used to describe more complex glyphs, where certain basic glyphs are connected together.

Each *glyph descriptor* consists of a *basic glyph descriptor*, followed by optional *glyph modifiers*, followed by optional *pitch descriptor*.

The following description is for the St. Gall family of neumes, when using the gregall or gresgmodern fonts. For details on Laon (Metz notation family) neumes see [4](#)

The *basic glyph descriptor* is a two-letter string from the following table:

vi / virga	po / porrectus	tr / torculus resupinus	tv // trivirga	pq ✓ pes quassus
pu . punctum	to . torculus	st . stropa	pr / pressus maior	q1 ✓ quilisma (3 loops)
ta . tractulus	ci / climacus	ds . distropa	pi / pressus minor	q2 ✓ quilisma (2 loops)
gr \ gravis	sc ✓ scandicus	ts ... tristropa	vs / virga strata	pt ✓ pes stratus
cl / clivis	pf / porrectus flexus	tg . trigonus	or / oriscus	
pe ✓ pes	sf / scandicus flexus	bv / bivirga	sa / scandicus	

The *glyph modifiers* is a possibly empty sequence of following characters optionally followed by a number:

- u _ tractulus with episema
- v _ tractulus with double episema
- w \ gravis
- x , liquescens stropa
- y \ gravis with episema
- S modification of the mark
- G modification of the grouping (neumatic break)
- M melodic modification
- - addition of episema
- > augmentive liquescence

Names of Symbols	Simple Symbols	Symbols differentiated by				Symbols indicating a special meaning	
		the addition		the modification		melodic	phonetic
		of letters	of the mark	of the grouping (neumatic break)	augment.		
virga	vi	vilsc3 vilst1 vippt1lsc2 talst2	vi-				vi> ta> st visulsux1
tractulus	ta						
punctum	pu						
gravis	gr						
clivis	cl	cllsc3 cllst2 cl-1st2	cl- clS-	clS clS1	clM		cl-> cl>1
pes	pe		pe- pe-1	peS	peG		pe> pe>1 pe>2
porrectus	po	polsc2	po- po-1		poG		po>
torculus	to	tolsc3 tolsc4lst3 tolst2	to- to-1	toS toS1 toS2 toS3	toG	toM toM1	to>
climacus	ci	cilsc3 cilst2	ci-	ciS ciS1 visutisu2	ciG ciG1	ciM	ci>
scandicus	sc		sc-	scS	scG scG1	scM1	sc>
porrectus flexus	pf	pflsc2 pflsc2 pflst2	pf-	pfS	pfM	vihevihivihm	pf>
pes subbipunctis	pesu2	vippt1su2lsc3	pe-su2 pe-1su2	peSsu2 peSsut2	vipptisu2	vi-!ci pesulsuw1	pesulsux1
			pe-1sut2		toS2sut1		to>

scandicus flexus	sf sfisc3	tr trlsc2 trlst2	sf- tr-1	sfS trS	vi-tohk pecihi trG trG1 trG2	sfM trM	cl>ppt2 tr>	sc> tr-
apostropha	st	st	st-	stS			st>	
distropha	ds ds-lsx6	ds	ds-				ds>	
tristropha	ts ts-lsx6	ts	ts-			tsM	ts>	
trigonus bigirga & trivirga	tg tg1 bv tv	tg tg1 bv tv		tgS tgS1 tgS3		tgM	bv>	ds>
pressus	pr pi	prlsc2 pr-lsc2 prlst2 pilst2 vslsc3 vslst2	pr- vs-			prM	pr> pi>	vs> or> ta>
virga strata	vs						vs>	
oriscus	or						or>	
salicus	sa sa1	salsfr1 saM1sfr1 pqlsfr1	sa- pq- ql- qi-		saG	saM saM1 saM2	sa> sa->1 pq>	pe>2
pes quassus	pq							
quilisma	ql qi						ql> qi>	
pes stratus	pt							

Table from Cardine's Gregorian Semiology, pp. 12-13 with nabc strings and gregall glyphs.

Only subpunctis are normally used in neume classification, the prepunctis is a nabc concept to describe the rising sequence of punctis, tractulis etc. in the left low corner of some neume. While e.g. `vipp2` describes the same neume as `sc`, the former form allows better control on how many punctis or tractulis or tractulis with episema etc. there are. Some examples: `ppt3` stands for 3 raising tractulis with episema, while `su1sut1sux1` stands for a punctum, followed by tractulus, followed by liquescens strophæ.

The *significant letter descriptor* consists of the letters `ls`, followed by a shorthand of the significant letter or common group of them, followed by a number - a rough position relative to the *complex glyph descriptor* glyph with prepunctis and subpunctis attached to it. If more than one *significant letter descriptor* is used on the same *complex neume descriptors* for the same position, then they are ordered in the order they are written in the nabc snippet at that position. The position numbers are:

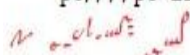
1 ^u left upper corner	2 ^a above the neume	3 ^r right upper corner
4 ^l to the left of the neume		6 ^r to the right of the neume
7 _l left bottom corner	8 _l below the neume	9 _r right bottom corner

The shorthands, including the `ls` prefix, which should be followed by the above mentioned position digit:

<code>lsal</code> ^a altius	<code>lsiv</code> ^v iusum valde	<code>lss</code> ^r sursum
<code>lsam</code> ^m altius mediocriter	<code>lsk</code> ^k klenche	<code>lssb</code> ^b sursum bene
<code>lsb</code> ^b bene	<code>lsl</code> ^l levare	<code>lssc</code> ^c sursum celeriter
<code>lsc</code> ^c celeriter	<code>lslb</code> ^b levare bene	<code>lssimil</code> ^l similiter
<code>lscm</code> ^m celeriter mediocriter	<code>lslc</code> ^c levare celeriter	<code>lssimul</code> ^l simul
<code>lscu</code> ^u coniunguntur	<code>lslen</code> ⁿ leniter	<code>lssm</code> ^m sursum mediocriter
<code>lscw</code> ^w celeriter (wide form)	<code>lslm</code> ^m levare mediocriter	<code>lssst</code> ^s sursum tenere
<code>lsd</code> ^d deprimatur	<code>lslp</code> ^p levare parvum	<code>lssta</code> ^t statim
<code>lse</code> ^e equaliter	<code>lslt</code> ^t levare tenere	<code>lst</code> ^t tenere
<code>lseq</code> ^q equaliter	<code>lsm</code> ^m mediocriter	<code>lstb</code> ^b tenere bene
<code>sew</code> ^w equaliter (wide form)	<code>lsmoll</code> ^l molliter	<code>lstm</code> ^m tenere mediocriter
<code>lsfid</code> ^f fideliter	<code>lsp</code> ^p parvum	<code>lstw</code> ^w tenere (wide form)
<code>lsfr</code> ^f frendor	<code>lspar</code> ^p paratim	<code>lsv</code> ^v valde
<code>lsg</code> ^g gutture	<code>lspfec</code> ^f perfecte	<code>lsvol</code> ^v volubiliter
<code>lsi</code> ⁱ iusum	<code>lspm</code> ^p parvum mediocriter	<code>lsx</code> ^x expectare
<code>lsim</code> ^m iusum mediocriter	<code>lspulcre</code> ^p pulcre	

Finally a commented example of a nabc snippet:

```
``po///pe>2lse7ls13qlhh!vshhppt1sut2ql>ppu3
```



```` stands for a negative horizontal skip (move to the left) by `nabcinterelementspace` and `nabclargerspace`.

`po` is a basic porrectus, at the default pitch (height `hf`).

`///` stands for a horizontal skip (move to the right) by two times `nabclargerspace`.

`pe>2lse7ls13` stands for the 3rd augmentive liquescent form of podatus (epiphonus with tractulus, see the following page) at the default pitch, with equaliter in the low left corner and levare in the upper right corner.

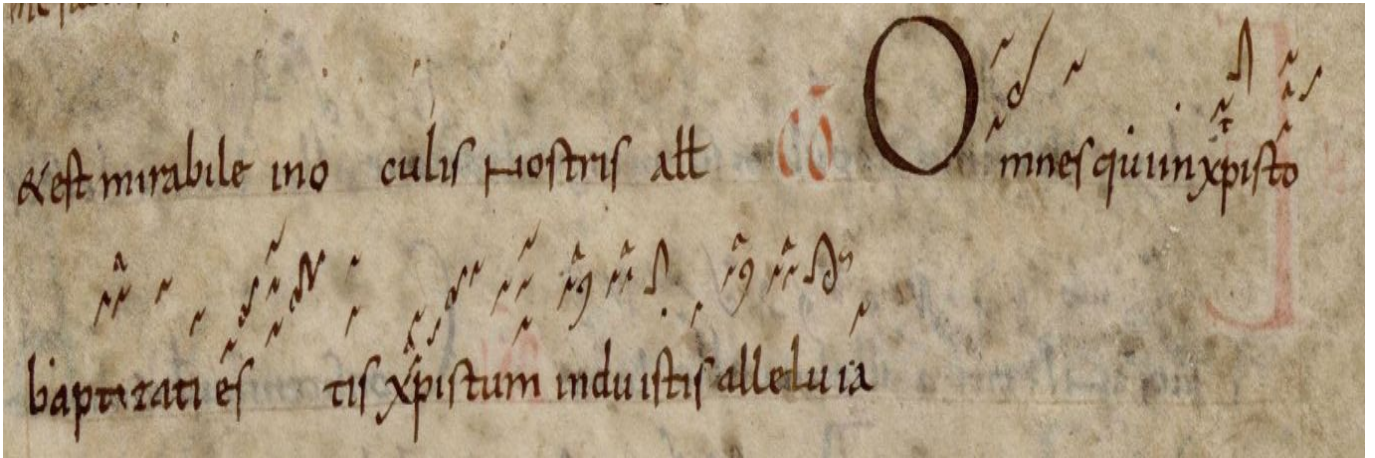
`qlhh!vshhppt1sut2` stands for a 3 loop quilisma joined with virga strata, both at relative pitch 2 above the default one, with a single tractulus before it and two subpunctis - tractulis.

`ql>ppu3` is a 3 loop liquescent quilisma with 3 tractulis with episema before it.





# Neumes of Laon

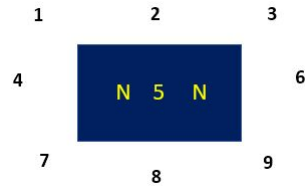


Manuscript 239 p117 Bibliothèque municipale Ville de Laon

gabc and nabc with neumes of Laon

Place number of the ls of Laon

name: Communio Omnes qui;  
 user-notes:GT 61 - In Baptismati Domini;  
 commentary: Gal.3,27;  
 annotation: Co-II;  
 nabc-lines: 1;



```
%%
(f3)OM(f_c/ef~|clGhhta>)nes(f_|unhg) *(,) qui(e|puhd)
in(f|pu) Chris(f/ghf|un1helst8`tohi)to(f_ef_|clGhgl5a5vi) (,) > lsa on 5
bap(f|puhd)ti(hh|bvlsa2)zá(h|un)ti(fe|unhd) (z)
es(e!gwh!ivHG'/hwih|un1hbppn1ppq1sun2ql!po)tis,(ie_|unhisun1hi) (;)
Chris(f_e/f!gwhh|clGlsa5vihgqlhj`unhj)tum(/////hiH'F|///un1heppn1sun2)
in(hhf~|unlsa2`vi>)du(hh|bvlsa2)í(fgF'E|tosu1)stis,(e_|unhd) (;)
al(hhf~|unlsa2`vi>)le(hh|bvlsa2)lú(hih|to>ltsr6)ia.(f_|unhd) (::)
```

lsa 'augete' (see ls p43) above in position 5 ,compare with SG ls (p14) - in the template(p42) - `{\gresetnabcfont}`  
 type between { } as argument 'grelaon' , laon is now the nabcfont.

## Communio Omnes qui

GN 51 - GT.61 : In Baptismate DOMINI

Cf. Gal. 3, 27

Co - II

M- nes qui in Chris- to bap- ti zá- ti  
 es- tis, Chris- tum in-du- í- stis, al- le- lú- ia.

As many of you have been baptized in Christ have put on Christ.



Template for 'Omnis qui in Christo' with neumes of Laon

```

%!TEX TS-program = lualatex - !TEX encoding = UTF-8
% This is a template for a LuaLaTeX document using gregorio scores.

\documentclass[a4paper,11pt]{ article } % use larger type; default would be 10pt
% usual packages loading:
\usepackage{ fontspec }
\usepackage{ graphicx } % for import of images
\usepackage{ geometry } % See geometry.pdf to learn the layout options. There are lots.
\usepackage{ gregoriotex } % for gregorio score inclusion
\usepackage{ fullpage } % to reduce the margins
\pagestyle {empty}
\usepackage{ color}
% here we begin the document
\begin {document}
\newcommand{\red}[1]{\textcolor{red}{#1}}
\newcommand{\black}[1]{\textcolor{black}{#1}}
\newcommand{\cent}[1]{\begin{center}{#1}\end{center}}
\newcommand{\lside}[1]{\begin{flushleft}{#1}\end{flushleft}} %left is reserved word
\input AnnSton.fd
\input Acorn.fd
\input Rothdn.fd
\newcommand*\initfamily{\usefont{U}{Acorn}{xl}{n}}
\newcommand*\mynfont{\usefont{U}{Rothdn}{xl}{n}}
\newcommand*\yourfont{\usefont{U}{AnnSton}{xl}{n}}
% The title:
\grechangedim{ beforeinitialshift }{3.2mm}{scalable}% Here we set the space around the initial.
\grechangedim{ afterinitialshift }{3.2mm}{scalable}
% Here we set the initial font. Change 43 if you want a bigger initial.
\grechangestyle { initial }{ \initfamily \fontsize {36}{36} \selectfont \color {red} \relax }
\grechangedim{ spaceabovelines }{0.5cm}{scalable}
\gresetbarspacing {new} %
\grechangestaffsize {19}
\gresetlinecolor {black}%black is default-red if you want
% we set the nabcfont for neumes of Laon
\gresetnabcfont{\grelaon}{14}
\cent {\Large{\begin{yourfont}\red{C}\end{yourfont}}\black{ommunio Omnes qui}}
\greannotation{\small \textsc { \textbf {Co – II}}}% We set II above the initial.
\lside \black{\small GT.61 : In Baptismate DOMINI}% We type a text in the top left corner
\grecommentary[8mm]{\emph{Cf. Gal. 3, 27}}%comes on the right side
% and finally we include the score. The file must be in the same directory as this one.
\gregorioscore [a]{co_omnes_qui4}
\cent { \scriptsize \textbf All of you who have been baptized into Christ ,
you have put on Christ . }
\cent { \greseparator {2}{20}}
\end{document}

```

>

The *basic glyph descriptor* for Laon neumes is very similar to the one used for St. Gall neumes, but with uncinus and oriscus-clivis added and stroptha, 2 loops quilisma and gravis removed:

un / uncinus	pe / pes	tr / torculus resupinus	pi / pressus minor
vi / virga	po / porrectus	ds / distroptha	vs / virga strata
pu / punctum	to / torculus	ts / tristroptha	or / oriscus
ta / tractulus	ci / climacus	tg / trigonus	sa / scandicus
gr / gravis	sc / scandicus	bv / bivirga	pq / pes quassus
cl / clivis	pf / porrectus flexus	tv / trivirga	ql / quilisma
oc / oriscus-clivis	sf / scandicus flexus	pr / pressus maior	pt / pes stratus

The *subpunctis and prepunctis descriptor* consists of the letters su for subpunctis or pp for prepunctis, followed optionally by a modifier letter from the following table and finally a mandatory positive number of repetitions. If the modifier letter is missing, it is a punctum.

- n / uncinus
- q / quilisma
- z / virga
- x / cephalicus

The *significant letter descriptor* for Laon neumes allows another position, 5, which stands for inside the neume. The exact position of the letter depends on the glyph, if there is no glyph with the neume inside of it, it can't be positioned inside the neume.

The shorthands, including the 1s prefix, which should be followed by the above mentioned position digit for Laon neumes are:

lsa / augete	lsnl / non levare
lsc / celeriter	lsnt / non tenere
lseq / equaliter	lsm / mediocriter
lseq- / equaliter	lsmd / mediocriter
lsequ / equaliter	lss / sursum
lsf / fastigium	lssimp / simpliciter
lsh / humiliter	lssimpl / simpliciter
lshn / humiliter nectum	lssp / sursum parum
lshp / humiliter parum	lsst / sursum tenere
ls1 / levare	lst / tenere
lsn / non (tenere), negare, nectum, naturaliter	lsth / tenere humiliter

p43-45 : from 'GregorioNabcRef.pdf p4,6 (Jacub Jelinek.)'

>

Name of Symbols	Simple Symbols	Symbols differentiated by				Symbols indicating a special meaning	
		the modification		the addition of letters	melodic	augment.	phonetic
		of the mark	of the grouping (neumatic break)				
uncinus	un						
punctum	pu						
virga	vi	viS vipp2ma2v1hh		talst2 talsc2lst2		vi>1 ta>2	
tractulus	ta	ds ts					
clivis	cl		clG	cllsm9 cllst9 clGlsas	clG1 clM	cl> cl>1	vi> ta>2
pes	pe		peG	pelsm3 pelst2 pelsc2		pe>1	ta>
porrectus	po		poG		poM	po>	
torulus	to	toS1	toG	toGlsas toSlsas toSsm5 toSsunllsas tolst9		to>	
climacus	ci	pusuisun1 visu2 unsun2		visu2lst3			cl>1
scandicus	sc sci	vippnippi vippn2	pev1hl	sc1st2 pelst2v1hl pelas2v1hl		vi>1pp2	ta>ppal ta>pp2
porrectus flexus	pf1	pfS	unhg to po un	unhg1st2 to po unlm2	pfM	pf>	
(pes subbipunctis)	tosu1	tosun1	vippnisc2 urppniscun2	tosu1lsc5 tosunllsm5			
scandicus flexus	sf		unhd to sfG	unhd1st2 to pelst2clhh			



(pes subbipunctis)	<p>tosu1</p> <p>sf</p> <p>tr</p>	<p>tosun1</p> <p>trS</p>	<p>vippnsm2 urppnsm2</p> <p>visuisun1</p> <p>unhd'to sfG</p> <p>popn1 pe'peG</p> <p>tovihg toGvibg</p>	<p>tomllsc5 tosmllsc5</p> <p>unl1st2'to pelst2cdhh</p> <p>trSlsc1 trl1st3 trl1st9</p>	<p>unl1st2'publ1su1su1</p>	<p>pe'ta&gt;</p>
scandicus flexus						
torculus resupinus						
divis + pes or torculus	<p>clipe clito</p>	<p>toS'pe</p>	<p>toS'ito</p>	<p>or&gt;</p>		
oriscus	<p>ori</p>	<p>isolated &amp; at the syllabic articulation</p>	<p>ql</p> <p>oc'vi pq pqi</p> <p>tg</p>	<p>or&gt;</p>		
quilisma	<p>ql ql'cl ql'po</p>	<p>inside the neume</p>	<p>cl'lor cl'ip'cl cl'ip'ip'vi cl'ip'ip'cl cl'ip'ip'ito</p> <p>tolor</p> <p>sa sal</p> <p>vs vsG</p>			
pes stratus						

Table from Cardine's Gregorian Semiology, pp. 14-15 with nabc strings and grelaon glyphs.

# Appendix B

## Technical info

### B.1 About TeX and TeXLive

The TeX Live Guide - 2020 K. Berry

<https://www.tug.org/texlive/doc/texlive-en/texlive-en.html>

TeX is a language, used worldwide, informing how your document is printed.

The commands of this language are entered in an 'editor',

linked to a program, which is called with 'shell' (cf. fig.)

and convert the commands in the editor (template) into a PDF.

Since Donald Knutt created the basis of this language in 1976,

initially for mathematical use, many modules and packages are included,

of which LaTeX is the best known and TeX is used as:

.word processor for document creation,

personal or business letters and all kinds of publications:

book, newsletter, report, music score and as a letterpress system.

<https://www.integralist.co.uk/posts/terminal-shell>

In 1996 **TeXLive** was created with the collaboration of TUG (Tex User Groups).

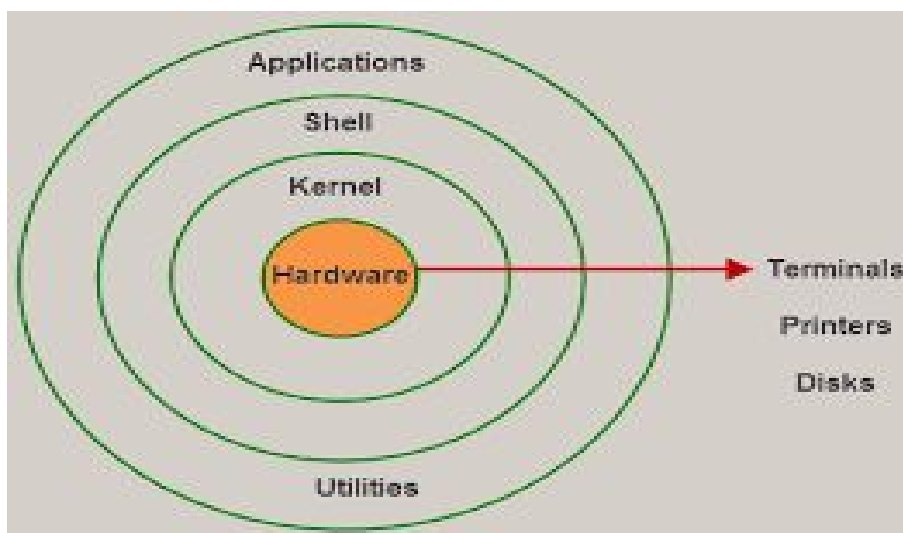
TeXLive is covered by GPL and is updated every year. MacTeX is especially for MAC users.

Gregorio is run by volunteers, programmers, constantly improved and updated:

the 'gregorio project' is growing, and every year there is a new version 'gregorio'.

GregorioTeX package is included in the consecutive annual versions of TeXLive.

The latest version 2019 also includes the latest version of gregorio.



>

## B.2 Brackets

{ }	<u>Curly brackets</u>	( )	<u>Curved brackets</u> Or parenthesis
[ ]	<u>Square brackets</u>	< >	<u>Angle brackets</u>
-			<u>hyphen</u>

The curly brackets `{ }`: a mandatory statement of the argument is to be put.  
The curved brackets `()`: in gabc the notes and neumes – may remain empty.  
The square brackets `[]`: fill in optional entries , when used.  
The hyphes `-`: in gabc after each syllable an – is automatically placed.  
A blank space avoids this hyphe, so put a blank space after a word in gabc.  
It is important to pay close attention with these brackets , both in gabc and upon creating a template; if you start a bracket, you must end one.  
The number of '`{`' brackets must be equal to the number of '`}`' brackets in the same command line.  
Also make sure you close with the same type of brackets . When writing texts , and reserved characters , such as an underscore , a `{` , '`n`' \$ character or # must preceded with a '`\`' : eg '`\_`' or '`\$`'.

---

Note regarding 'font' indications :  
xl and n for fonts indicate font series and shapes , respectively : x = extended light – n = normal.  
Further information by looking up 'fonts' in Latex. The website below:  
[https://upload.wikimedia.org/wikipedia/commons/2/2d/LaTeX.pdf\(p50\)](https://upload.wikimedia.org/wikipedia/commons/2/2d/LaTeX.pdf(p50))  
What means 'scalable' : Postscript and TrueType fonts may produce characters of variable size .( scale ).

Something about the gabc file extension :

Our example: '`of_reges_tharsis.gabc`' gabc is the extension of the name of the text in gabc notation , separated from the name by a period.  
When compiling, the extension '`gtex`' is used instead of '`gabc`' and the name is extended with: `-5_1_0`  
so the result is: `of_reges_tharsis-5_1_0.gtex` (5\_1\_0 is the version of gregorio used.)  
You can check these changes in the folder on your PC.

>

# Appendix C

## Exercises

### C.1 Make your own gabc notation

The following song is taken from the Graduale Triplex 1979 p37  
Let yourself be guided by the place and signs of this song and create a gabc notation.

The image shows a musical score for the Communion 'Ecce Virgo'. It features a vocal line with a treble clef and a G-clef. The lyrics are: 'Ecce virgo concipiet, et pariet filium: et vocabitur nomen eius Emmanuel. T. P. Alleluia.' The score is annotated with handwritten gabc notation in red ink. A box on the right side of the score contains the text 'L 14' and 'E 13'. The text 'CO. I' and 'RBCKS' are written above the first staff.

### Solution

```
name: Communio Ecce Virgo;
user-notes: GT. 37 - 4th sunday of the advent;
commentary: Is.7,14;
annotation: Co - I;
%%
(c4) EC(d)ce(dfe) vir(fg)go(d.) *(,) con(ce)cí(gh)pi(g_f)et,(fv.efd.)
(;) et(de) pá(gh!jj/kh)ri(gh)et(h) (z) fí(h)li(h!iwjh)um:(h.)
(:) et(h_g) vo(jj)cá(h_g)bi(ixihi)tur(gh/i_h)(,)
no(fe)men(f) e(ixg!hw!ivHG~)jus(hg..)
(,)(z) Em(fge___/ed)má(d!ewf!g'h)nu(fvED)eI.(d.) (::)
T.P. Al(fg~)le(e_1d/fh/ghg/e!fg/hf/gvFE)lu(d!ewfef)ia(ed..) (::)
```

Note the sign (z) after 'et' and after 'ius': this ends the staff, as it ends in the GT image. Of course you can also omit this (z).

Note: the '!' exclamation mark in the gabc notation after the syllable 'pá' (riet) (fi) 'lí' 'e' (ius) and (Em) 'ma' and (All) 'lu': the note after the exclamation mark is shifted upwards to the right



## C.2 Now create the gabc notation and the nabc code

```
name: Communio Ecce Virgo;
commentary: Is.7,14;
annotation: Co.I;
nabc-lines: 1;
%%
(c4) EC(d|vi)ce(dfe|tolssi8lsvol2) vir(fg|ta>)go(d.|ta)
con(ce|pe>1lse7)cí(gh|peSlss7)pi(g_f_|cl-)et,(fv.efd.|vi-toM1) (;)
 et(de|pe>1) pá(gh!jjkh|peSvi-lsl2pqhh!clhh)ri(gh|pelse7)et(h|vi) (z)
 fí(h|vi)li(h!/iwjh|vi-/ql!cl)um:(h.|ta) (:)
 et(h_g|cl-) vo(jj|bv)cá(h_g|cl-)bi(ixihi|po)tur(gh/i_h|cl-ppt2) (,)
 no(fe|cllsi1)men(f|vi) e(ixg!/hw!ivHG|vi-qlhh!cl>hh)ius(hg..|cl-) (,z)
 Em(fge__//ed|peSprlsi7)má(d!ewf!/g'h|qlppt1lse7`pqhp)nu(//fvED//ci)
el.(d.|ta) (::)
```

When you place this gabc|nabc code in the 'engraver' and press 'submit', you will get a 'pdf' containing the score.

Note adding '**nabc-lines: 1;**' in the headings.

Some neumes are composed. We discuss one of them:**peSvi-lsl2pqhh!clhh**

On p39.40 you will find a summary of the most special neumes of St. Gallen: peS = pes quadratum, followed by a virga with episema 'vi-', above the virga is a 'levare' sign, then a pes quassus, follows a clivis, hence the code: pq! cl, this special neume can only be found in the 'GregorioNABCRef.pdf' which is located in the website below We draw your attention to 2x'hh 'after pq and after cl, ie: move the neume at relative height h (see p15,36) Characters such as 'ls' and others see also p37 and 40.

<https://github.com/gregorio-project/gregorio/releases>

## C.3 Create a gabc file with a translation

```
name: Communio Ecce Virgo;
user-notes: GT. 37 - 4th sunday of the advent;
commentary: Is.7,14;
annotation: Co - I;
%%
(c4) EC[The Virgin will receive](d)ce(dfe) vir(fg)go(d.) *(,)
con(ce)cí(gh)pi(g_f)et,[/](fv.efd.)
(;) et[and will give birth to a son](de) pá(gh!jj/kh)ri(gh)et(h) (z)
fí(h)li(h!iwjh)um:[/](h.)
(:) et[and his Name will be heard](h_g) vo(jj)cá(h_g)bi(ixihi)tur(gh/i_h)(,)
no(fe)men(f) e(ixg!hw!ivHG~)jus[/](hg..) (,) (z)
Em(fge__//ed)má(d!ewf!g'h)nu(fvED)el.(d.) (::)
```

### The translation is to be placed between square brackets []

After the first syllable of the Latin sentence, the translation sentence is introduced,

By opening the square brackets '[' and closing these brackets at the end of the translation ']'.

At the end of the translated Latin sentence, after the last syllable of this sentence, between [] a '/', which means: 'end of the translation'.

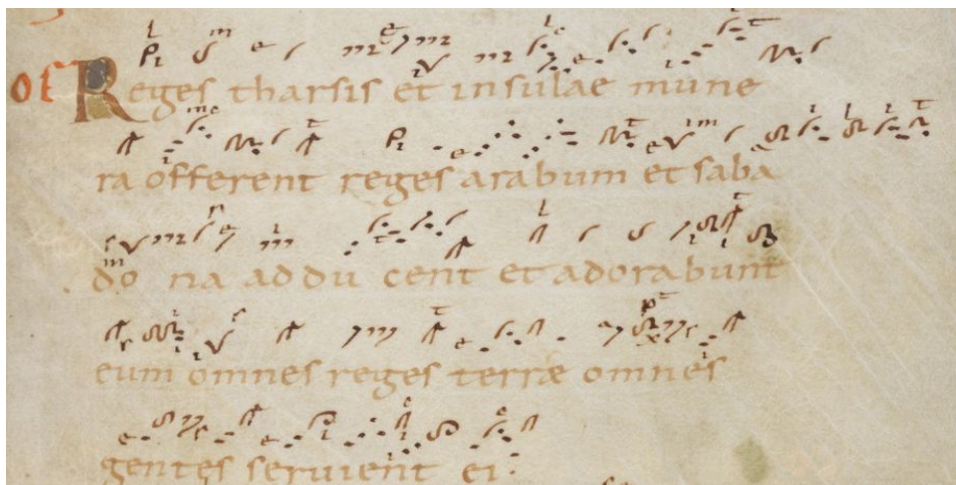
View this sequence in the gabc notation.

**Websites in this guide : scan the QR code.**

 >Gregorio project	 >GregorioRef	 >Gregobase
 -> Engraver	 >TeXLive install	 >MacTeX
 >TeXShop	 >LATEX pdf	 >Gregowiki
 >TeX	 >Shell ea*	 > E121 - 51

### Websites mentioned in this guide

- <http://gregorio-project.github.io/index.html>—>Gregorio project
- <https://github.com/gregorio-project/gregorio/releases>—>GregorioRef.pdf
- <http://gregoriochant.org/dokuwiki/doku.php>—>Gregowiki
- <https://run.gregoriochant.org/cgi/process.pl>—>Gregoriochant-engraver
- <https://gregobase.selapa.net>—>Gregobase
- <https://upload.wikimedia.org/wikipedia/commons/2/2d/LaTeX.pdf>—>LATEX Guide
  
- <https://www.tug.org/texlive/acquire-netinstall.html>—>TeXLive install
- <http://www.tug.org/mactex/index.html>—>MacTeX by MAC
- <https://gregorio-project.github.io/configuration-texshop.html>—>Configuration of TeXShop
- <https://www.tug.org/texlive/doc/texlive-en/texlive-en.html>—>TeX
- <https://www.integralist.co.uk/posts/terminal-shell>—>Shell \*



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*Of* Reges tharsis





[www.centrumgregoriaans.be](http://www.centrumgregoriaans.be)



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