

TüBingen

Digital Critical Edition Of Medieval Music

The Music of Hildegard von Bingen [1098-1179]



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„Digitale Medien und Musikedition“
Akademie der Wissenschaften Mainz

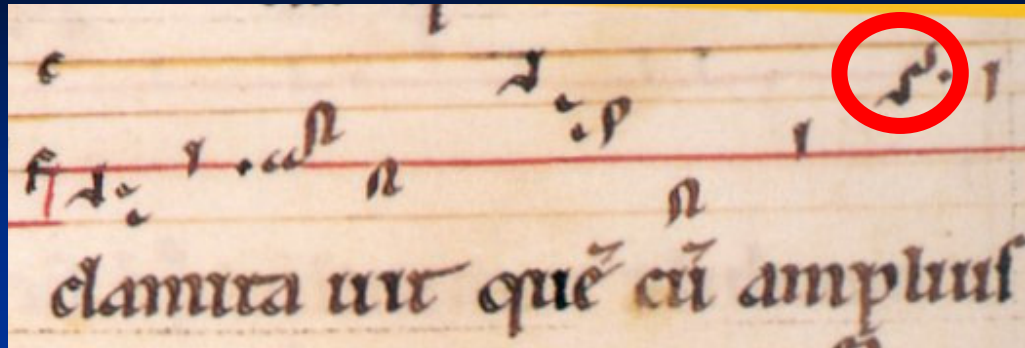
17.11.2006

International Congress *Hildegard von Bingen/Bingen* 1998:

- „Deconstructing“ myths surrounding Hildegard
- Situating Hildegard in contemporary context
- Manuscripts: Identification of scribes
- Urgent need for new critical edition

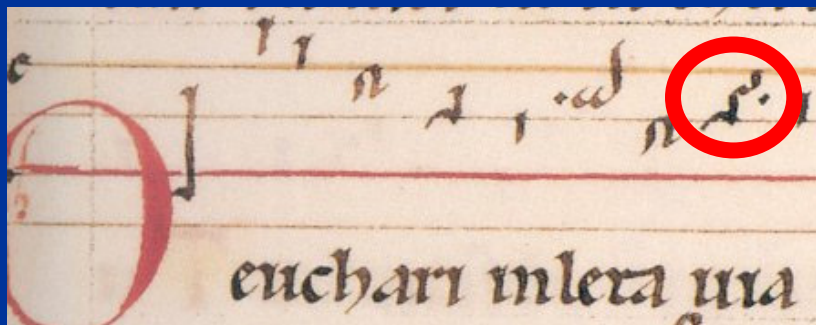


English version to appear at
University of Rochester Press

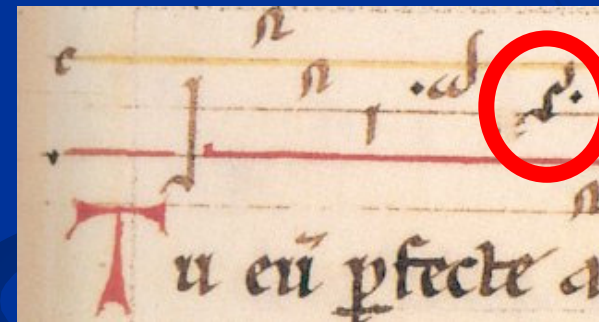


**Scribal habits:
„Special neume“
on B (E) in E-mode songs**

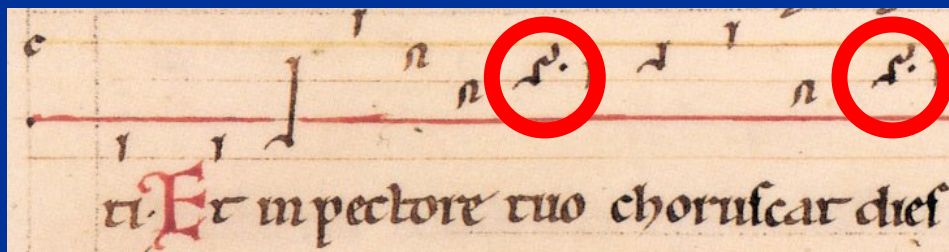
R f. 475 vb, 15: [R.] *O Euchari columba*



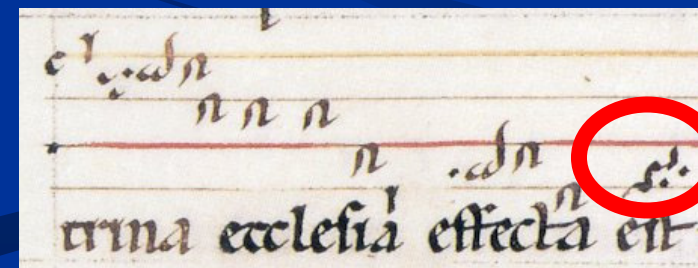
R f. 476, 3: *Sequentia O Euchari*



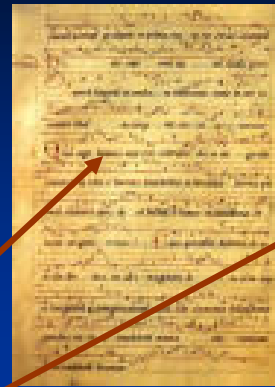
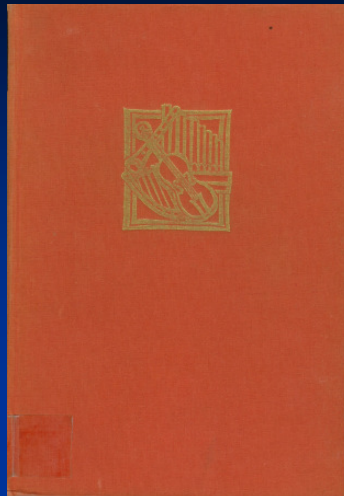
R f. 476, 6



R f. 476, 15



R f. 476b, 3



Facsimile
Codex D



Facsimile
Codex R

Edition [1969]

5 O SPLENDIDISSIMA GEMMA

V f. 154^{r-v}; R f. 466^{vb}; Text außerdem Sc. ill. f. 229^{va}.

1 splendidis-si-ma; Scandicus AHC; Clivis HA V u. R.

3 so-lis: Punctum G, G, a V, Punctum G, a vor 1. Climacus R.

4 fons: [- Virga D, - Rhombe C] V.

5 (sa)-li-ens: - Oriscus R; [- Pes EF] V.
de: - Rhomben ED R.
cor-de: - Oriscus R.
Pa-tris: + Clivis DC nach Pes subtrip. R.

6 quod V u. R.
Ver-bum: Climacus caG R, Virga a statt Epiphonus, Rasur, unleserlich V.
su-(um): - Punctum h vor Quilisma V.

7 suum per: Fleck unter dem Liniensystem R.
mun-(di): Virga D statt Epiphonus V.

8 prima V.
ma-te-riam: - Oriscus V.

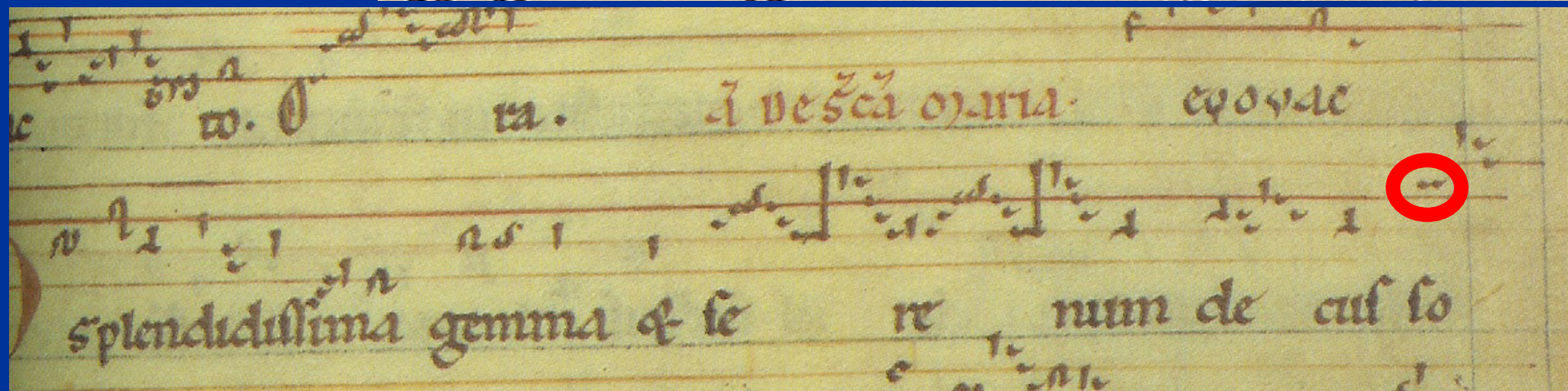
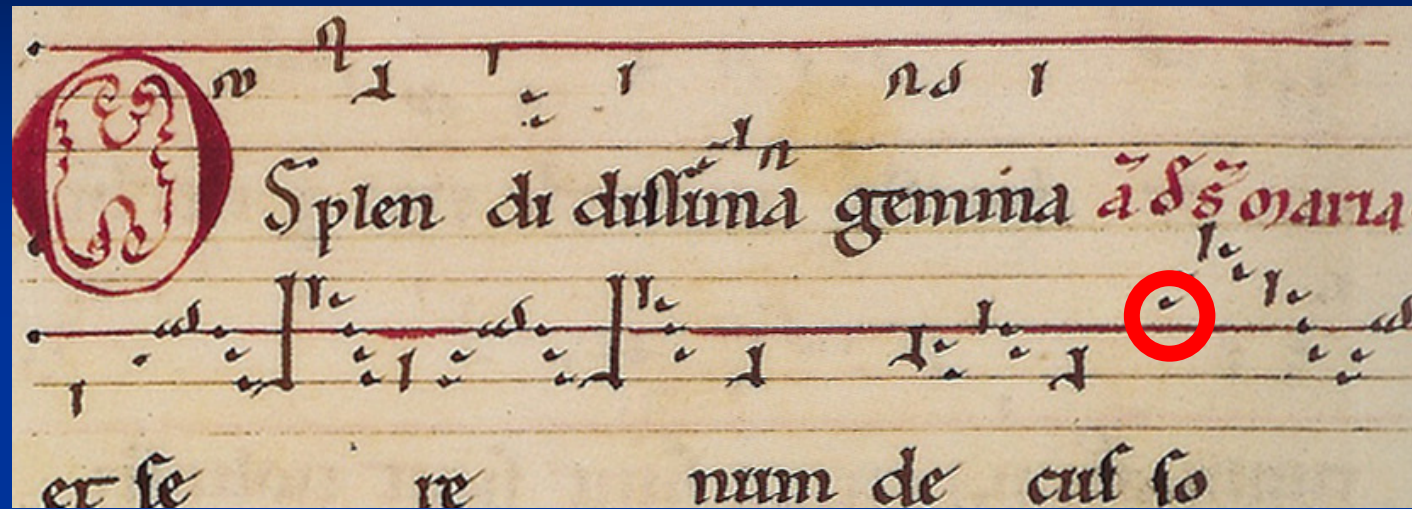
9 tur-bavit: - Oriscus V.
hoc: [- Porrectus aGa] V.
Ver-bum: Virga a V.

10 effabrica-vit: [- Pes EF] R.
ti-bi: Pressus min. aa R; Rasur, unleserlich V.

11 ob: Punctum R.
tu: - Rhombe F R.

Commentary [1969]

Codex R [„Riesencodex“]



Codex D [Dendermonde]

The TüBingen Project

- Hildegard von Bingen (1098-1179) in the computer
 - Remote repertory
 - Outside CWN
 - Neumes
 - Square notation
 - No definite concept of bars, meter, (pitch) etc.
 - Vital interest of musicology in editing early music
 - Test for flexibility, extensibility of a representation
- Collaboration of Departments at Tuebingen University
 - Musicology
 - Computer Science
 - Business Informatics
- Supported by DFG and CCARH

DCEM: Complete View

Video **Audio** **Variant readings** **Commentary**

Recording
MIDI

Facsimile

Splen di dīssīma gemina a dīssīmaria
er te re num de cus so lis

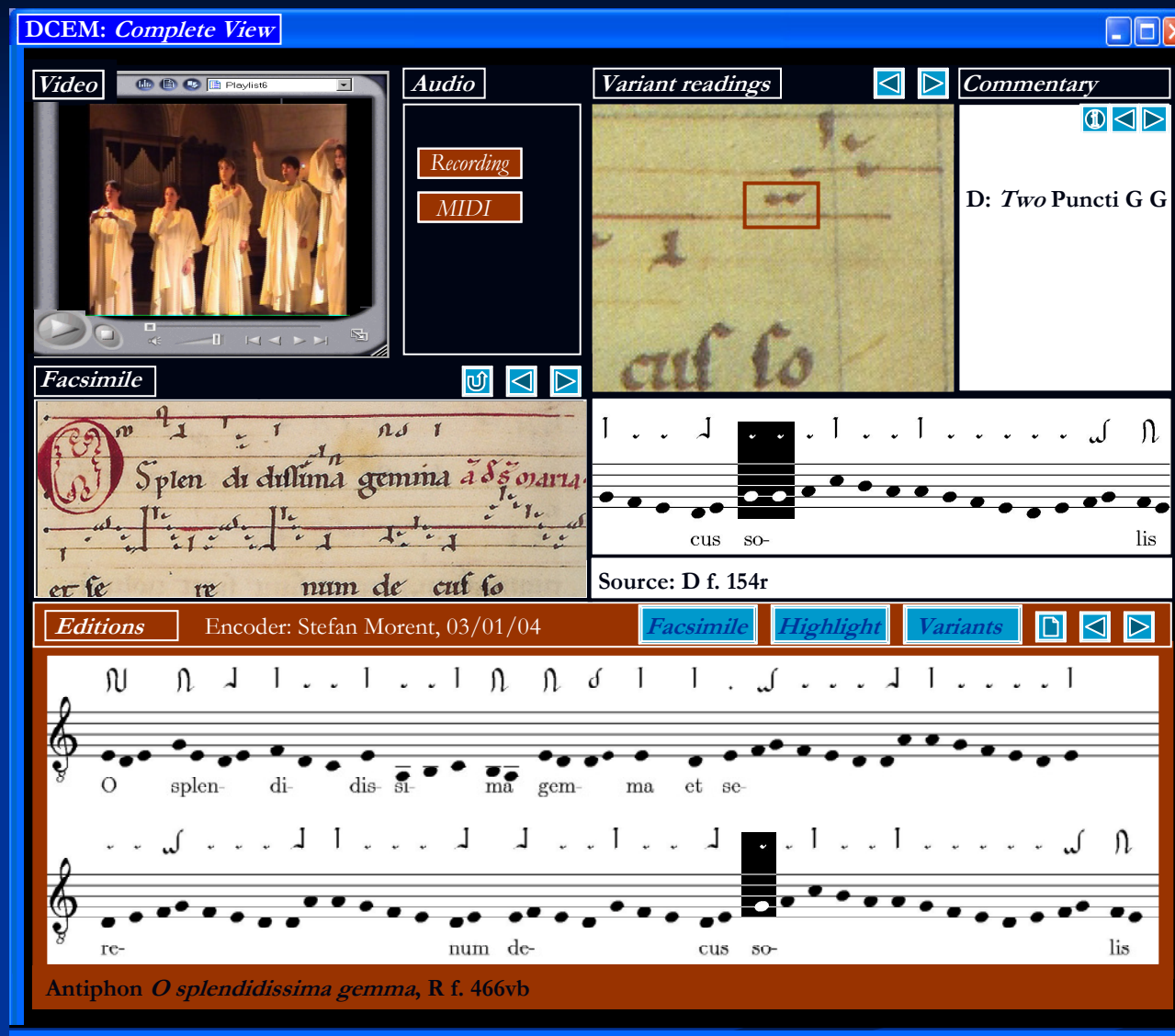
cus so- lis

Source: D f. 154r

Editions Encoder: Stefan Morent, 03/01/04 **Facsimile** **Highlight** **Variants**

O splen- di- dis- si- mā gem- ma et se-
re- num de- cus so- lis

Antiphon *O splendidissima gemma*, R f. 466vb



Simulation of GUI

DCEM: Editions mode

O splen- di- dis-si- ma gem- ma et se-
re- num de- cus so- lis

O splen- di- dis- si- ma gem- ma et se-
re- num de- cus so- lis

Encoder: Stefan Morent, 03/01/04

Chant Performing

O splen- di- dis- si- ma gem- ma et se-
re- num de- cus so- lis

Antiphon *O splendidissima gemma*, R f. 466vb

Simulation of GUI: Transcription Mode

Guidelines for representation:

- Encoding variant/parallel readings
- Encoding critical commentary
- Encoding neumes:
 - pitched, unpitched
 - no fixed duration/meter
 - neume forms
 - grouping of neumes
- Using existing/upcoming standards as far as possible
- Platform independency
- „Dynamic edition“

Encoding using ***Hildegard* representation

| | **kern | **Hildegard | **silbe |
|--|---------------|--------------------|----------------|
| R (<i>porrectus</i>) | ! | *mode4 | *LLatin |
| | * | 1154,7 | ! |
| | * | *clefC5,F3 | * |
| C (<i>clivis</i>) | E | R | O |
| | D | . | . |
| | E | C | splen- |
| P (<i>pes</i>) | E | . | . |
| | D | P | . |
| | E | . | . |
| M3 (<i>climacus3</i>) | F | M3 | -di- |
| | D | . | . |
| | C | . | . |
| | E | v | -dis- |
| S3 (<i>scandicus3</i>) | AA | S3 | -si- |
| | BB | . | . |
| | C | C | -ma |
| | BB | . | . |
| | AA | C | gem- |
| d1P (<i>diminutive liquescent pes</i>) | E | D | . |
| | D | d1P | . |
| | E | . | . |
| | E | v | -ma |
| | D | v | & |
| Q (<i>quilisma</i>) | E | p | se- |
| | F | Q | . |
| | G | . | . |
| | E | p | . |
| | D | pp | . |
| | D | P | . |
| I5 (<i>climacus resupinus5</i>) | A | I5 | . |
| | A | . | . |
| | G | . | . |
| | F | . | . |
| | E | . | . |
| | D | . | . |
| | E | p | -re- |
| | D | pp | . |
| | E | Q | . |
| | F | . | . |
| | G | p | . |
| M4 (<i>climacus4</i>) | E | pp | . |
| | D | pp | . |
| | D | P | . |
| | A | . | . |
| | A | M4 | . |
| | G | . | . |
| | F | . | . |
| | E | . | . |
| P2 (<i>pes sub2punctis</i>) | D | P | -num |
| | E | . | . |
| | E | P2 | de- |
| | F | . | . |
| | E | . | . |

| | | |
|--------|------------|--------|
| D | . | . |
| G | M3 | . |
| F | . | . |
| E | . | . |
| D | P | -cus |
| E | . | . |
| G | p | so- |
| G | p | .?? |
| ! [-R] | ! [-R] | ! [-R] |
| A | p | . |
| c | M3 | . |
| B | . | . |
| A | . | . |
| ! | !154,8 | ! |
| * | *clefC4,F2 | * |
| A | M4 | . |
| G | . | . |
| F | . | . |
| E | . | . |
| D | p | . |
| E | p | . |
| F | Q | . |
| G | . | . |
| F | C | -lis |

Cf. Stefan Morent, *Representing a Medieval Repertory and its Sources: The Music of Hildegard von Bingen*, in: *Computing in Musicology* 12 (2001), 19-33.



MusicXML

So far:

- Variant readings stored in a single document not intended, references possible with `<bookmark>` and `<link>`
- Critical commentary not intended, maybe with `<editorial>` and `<footnote>`
- Encoding of neumes not supported, possibly with `<other-notation>`, if so specific to application

MEI – Music Encoding Initiative

- Variant readings in a single document supported with `<appst>` and `<sr dg>`
- Critical commentary for example with `<annot>`
- Encoding of neumes not supported, but under development

NeumesXML

- Variant readings in a single document not intended
- Critical commentary: editorial comments with `<editorial_comment>`
- Encoding of neumes realized, however no support of CWN
 - single encoding scheme without connection to other proposed formats (MusicXML, MEI)



MusicXML

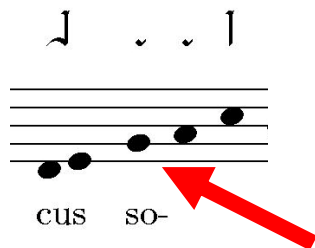


```
<note>
  <pitch>
    <step>G</step>
    <octave>3</octave>
  </pitch>
  <duration>2</duration>
  <voice>1</voice>
  <type>quarter</type>
  <stem>none</stem>
  <lyric number="1">
    <syllabic>begin</syllabic>
    <text>so</text>
  </lyric>
</note>
```

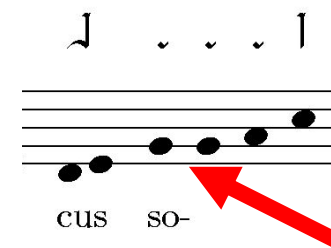
manuscript R

```
<note>
  <pitch>
    <step>G</step>
    <octave>3</octave>
  </pitch>
  <duration>2</duration>
  <voice>1</voice>
  <type>quarter</type>
  <stem>none</stem>
  <lyric number="1">
    <syllabic>begin</syllabic>
    <text>so</text>
  </lyric>
</note>
<note>
  <pitch>
    <step>G</step>
    <octave>3</octave>
  </pitch>
  <duration>2</duration>
  <voice>1</voice>
  <type>quarter</type>
  <stem>none</stem>
</note>
```

manuscript D



MEI



```

<staff>
  <neume type="pes">
    <verse>
      <syl>-cus</syl>
    </verse>
    <note pname="d" oct="3"/>
    <note pname="e" oct="3"/>
  </neume>
  <appst id="app1">
    <srdg source="n1">
      <neume type="punctum"
        pname="g" oct="3">
        <verse>
          <syl>so-</syl>
        </verse>
      </neume>
    </srdg>
  </appst>

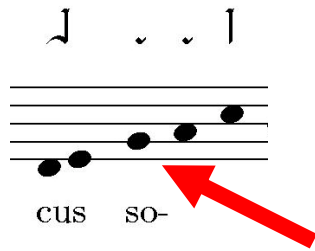
```

one single file

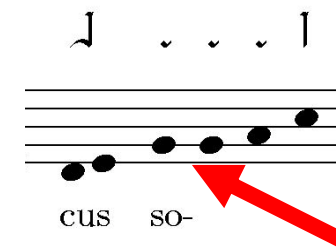
```

<srdg source="n2">
  <neume type="punctum">
    <verse>
      <syl>so-</syl>
    </verse>
    <note pname="g" oct="3"/>
    <note pname="g" oct="3"/>
  </neume>
</srdg>
</appst>
<neume type="punctum"
  pname="a" oct="3"/>
</staff>
<annot staff="1" start="app1"
  plist="n1 n2">
  <p>D: Two puncti G G</p>
</annot>

```



NeumesXML



```

<neumed_syllable>
  <syllable>cus</syllable>
  <neume>&STA;&pes;&D;&dn;
    &E;&up;&END;
  </neume>
</neumed_syllable>
&space;
<neumed_syllable>
  <syllable>so-</syllable>
  <neume>
    &STA;&punctum;&G;
    &up;&punctum;&a;&up;&END;
  </neume>
  <editorial_comment
    comment="D: Two puncti G G"/>
  <neume>&STA;&climacus3;&c;
    &up;&b;&dn;&a;&dn;&END;
  </neume>
  ...

```

manuscript R

```

<neumed_syllable>
  <syllable>cus</syllable>
  <neume>&STA;&pes;&D;&dn;
    &E;&up;&END;
  </neume>
</neumed_syllable>
&space;
<neumed_syllable>
  <syllable>so-</syllable>
  <neume>&STA;&punctum;&G;
    &up;&punctum;&G;&EQ;
    &punctum;&a;&up;&END;
  </neume>
  <neume>&STA;&climacus3;&c;
    &up;&b;&dn;&a;&dn;&END;
  </neume>
  ...

```

manuscript D

Conclusion

- Finding representation
as close as possible to
or extending an
existing representation
- meeting the various needs of critical editions
(not only for) medieval music