Digital Encoding of Mensural Music

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Problem

Encode mensural music in a machine-readable format: music symbolic files

Two goals:

- Display the piece without the manuscript
- Analysis / Search

Create the encodings:

MEI

MEI (Music Encoding Initiative)

MEI is a system for encoding musical documents in a machine-readable structure.

The music notation is represented using XML tags, arranged in a hierarchical relationship

Tree structure → with roots and branches

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<mei>
   <meiHead/>
   <music>
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         <staffDef n = 1 />
         <staffDef n = 2 />
         <staffDef n = 3 />
      </scoreDef>
      <section>
         <measure n = 1/>
         <measure n = 2/>
      </section>
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MEI (Music Encoding Initiative)

MEI has different modules to support different notation systems:

- Common Western music notation
- Mensural notation
- Neume notation

Each module define the elements and the rules on how these elements should interact in a given notational system

Plan

Display → Verovio

- Music notation engraving library that works with MEI
- It allows you to view (render) what it is encoded on the MEI file

Search / Analysis → VIS Framework (Vertical Interval Successions)

- Tool for music analysis
- Python library designed for queries in symbolic musical data (like MEI files)
- Built on Music21

Encoding the Mensural Pieces

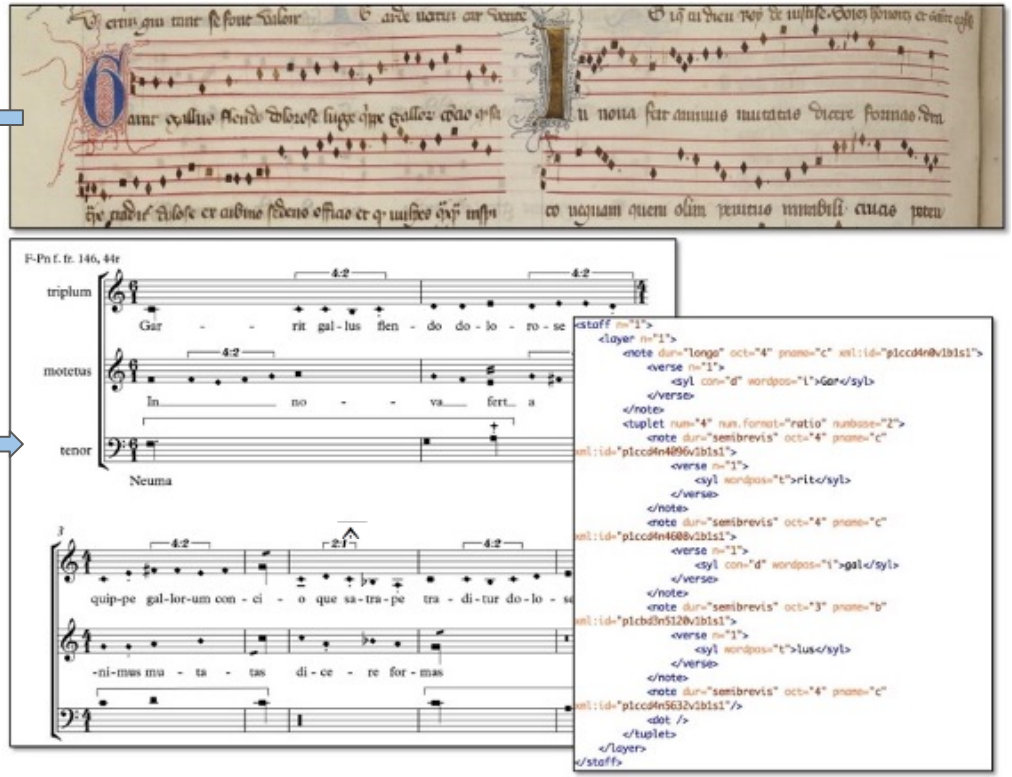
Goal: Encode the pieces in Mensural MEI

- Difficult to do this manually

What is the best way to get musicologists to enter a lot of musical documents in the computer?

- Using a score-editor that they are already familiar with
  - Sibelius
  - Finale
  - MuseScore
- **Sibelius**
  - **Includes a plugin that converts Sibelius files to MEI files**
  - Sibmei plugin (Andrew Hankinson)

Encoding the Mensural Pieces



Opening of the motet Garrit gallus / In nova from the manuscript Paris, Bibliothèque nationale, f. fr. 146.
And a marked-up transcription in Sibelius, with articulation marks indicating specific notational features.

Karen Desmond. Ars musicae blog. http://www.arsmusicae.org/wordpress/blog/2015/07/02/digitally-encoding-early-fourteenth-century-motets/

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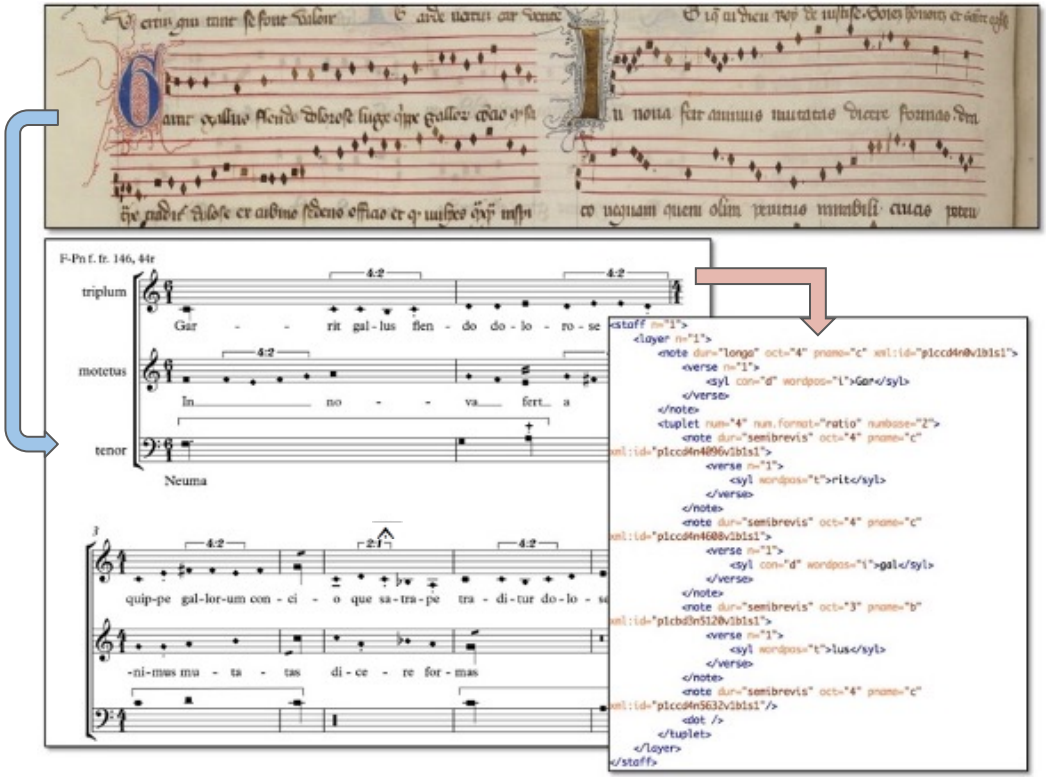

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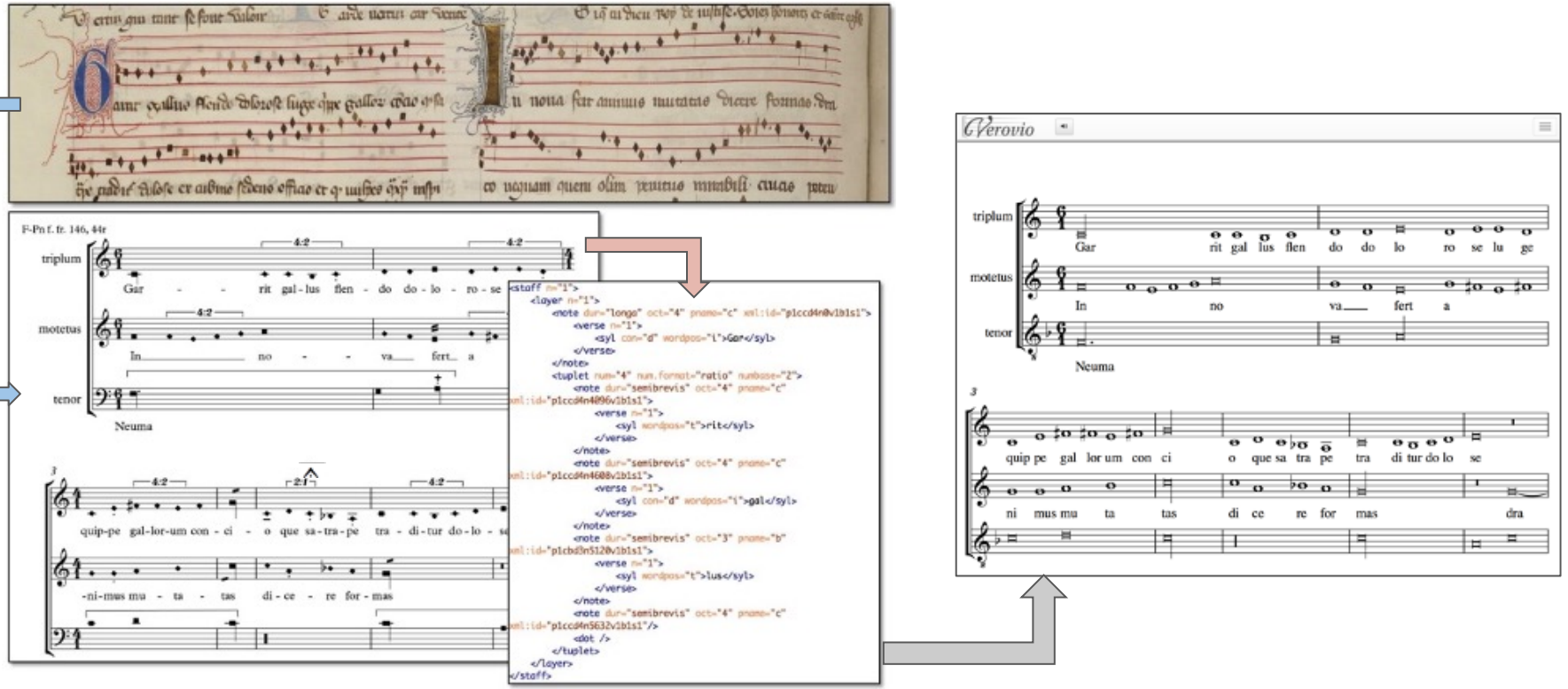

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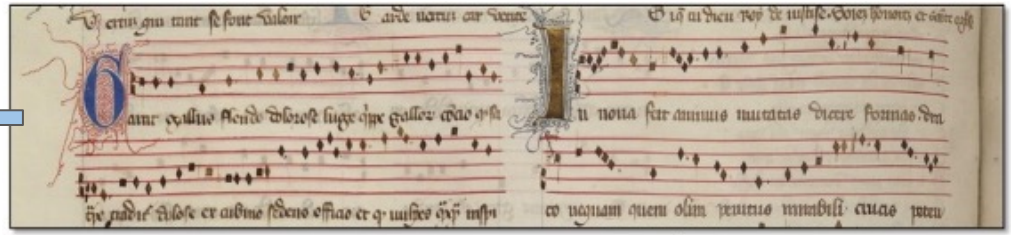

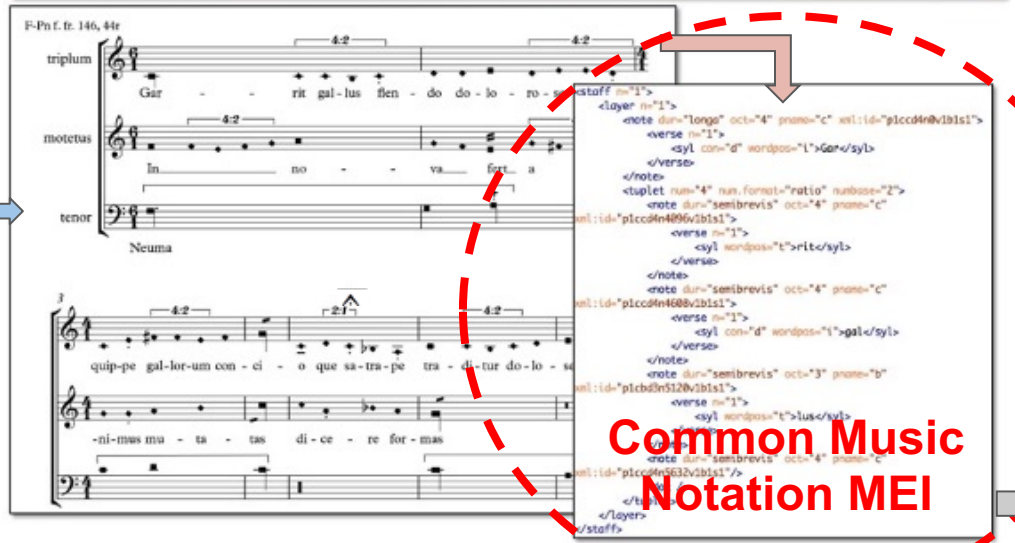

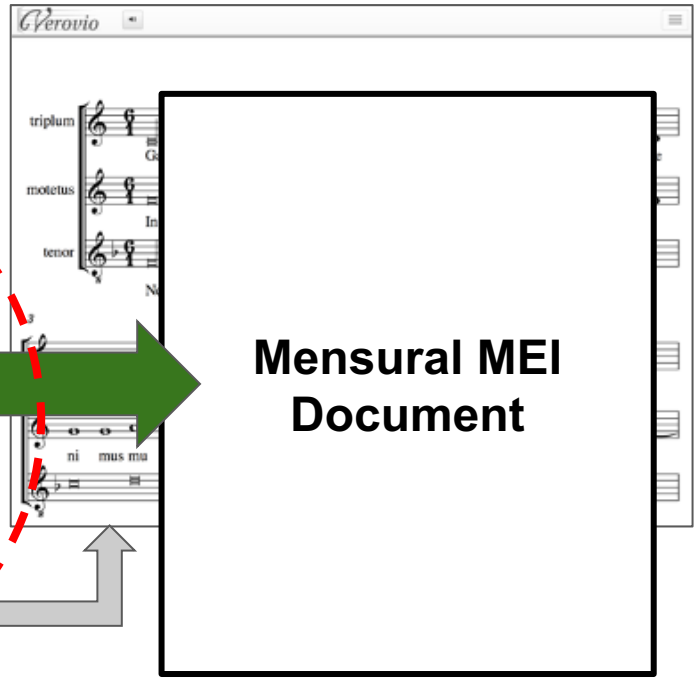

Mensural MEI Document

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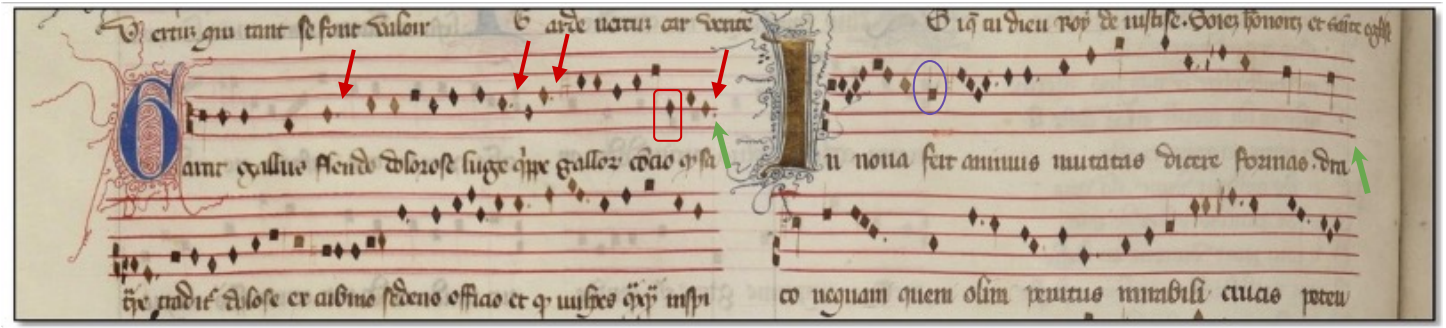

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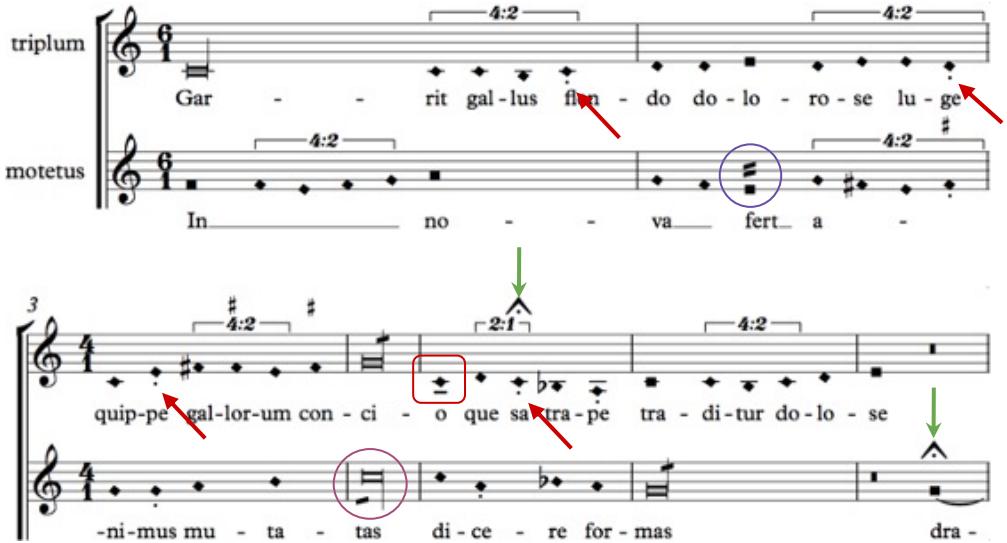
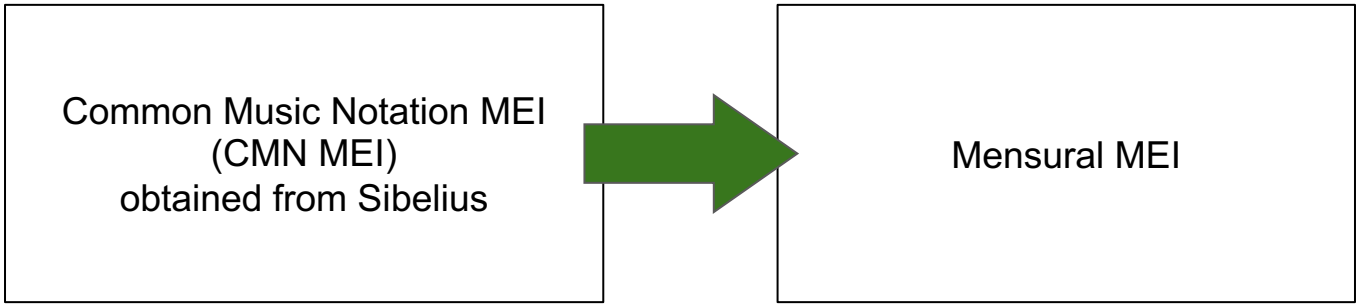
Transcription in Sibelius contains articulation marks that represent specific notational features



Mensural MEI Translator



- Decode these encoding conventions from the CMN MEI file
- Deal with two main issues of mensural notation:
  - Note’s shape
  - Note’s value

Mensural MEI Translator

- Was ran over the 64 pieces from the Motet’s Project
- Worked on 59
- Works fine with pieces with different mensuration between their voices
- Still to be implemented:
  - Deal with changes in mensuration within a voice
  - Coloration (which is not included in the Mensural MEI module yet)

Digitally encoding mensural music

- Making use of the conventions for transcribing mensural pieces in Sibelius
- We can have a lot of people entering this music in a familiar and easy way
- Getting a lot of music documents encoded in machine readable format
- Making them available to a wider audience for:
  - Analysis and search → research purposes
  - Display → pedagogical purposes

Thank you!

https://github.com/DDMAL/CMN-MEI_to_MensuralMEI_Translator

Special thanks to:

Karen Desmond
Andrew Hankinson