

Automatic Scoring-up Tool for Mensural Music

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Tenor

Handwritten musical notation for the Tenor part, featuring a large, ornate initial 'D' decorated with blue and gold. The text 'et eleison' is written below the notes. A red 'K' is visible in the middle of the page.

Bass

Handwritten musical notation for the Bass part, featuring a large, ornate initial 'B' decorated with blue and gold. The text 'et eleison' is written below the notes. A red 'K' is visible in the middle of the page.

*Alterum caput. Descendit tendem
predixit et sic p totam missam.*

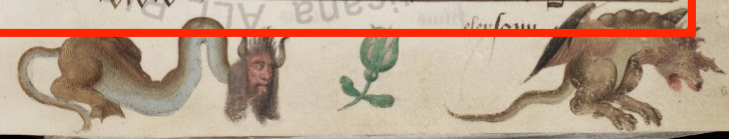


Soprano

Handwritten musical notation for the Soprano part, featuring a large, ornate initial 'S' decorated with blue and gold. The text 'et eleison' is written below the notes.

Alto

Handwritten musical notation for the Alto part, featuring a large, ornate initial 'A' decorated with blue and gold. The text 'et eleison' is written below the notes.



Motivation

The purpose of this project is to take all the notes from each of the parts (i.e., voices) of a mensural piece and line them up automatically in order to present the piece in score format, a process that we refer to as “scoring up”

To facilitate counterpoint studies (this is, the study of the relation between the voices)

Scoring-up tool

The process of scoring up involves the correct alignment of the notes from the different voices

But, in order to line up the notes, we need to know the duration of each of the notes

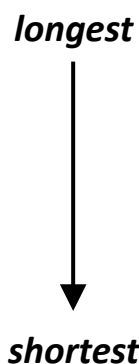
This is particularly challenging when dealing with mensural notation

The duration of the individual
note symbols in mensural
notation is not absolute, but
rather context-dependent

Mensural Notation

There is a clear hierarchy in the note duration

But, the actual value of these notes is ambiguous



Notes		Values			
Name	Shape	Perfect			Imperfect
Maxima	☐	☐	☐	☐	☐ ☐
Long	☐	☐	☐	☐	☐ ☐
Breve	☐	◇	◇	◇	◇ ◇
Semibreve	◇	◇	◇	◇	◇ ◇

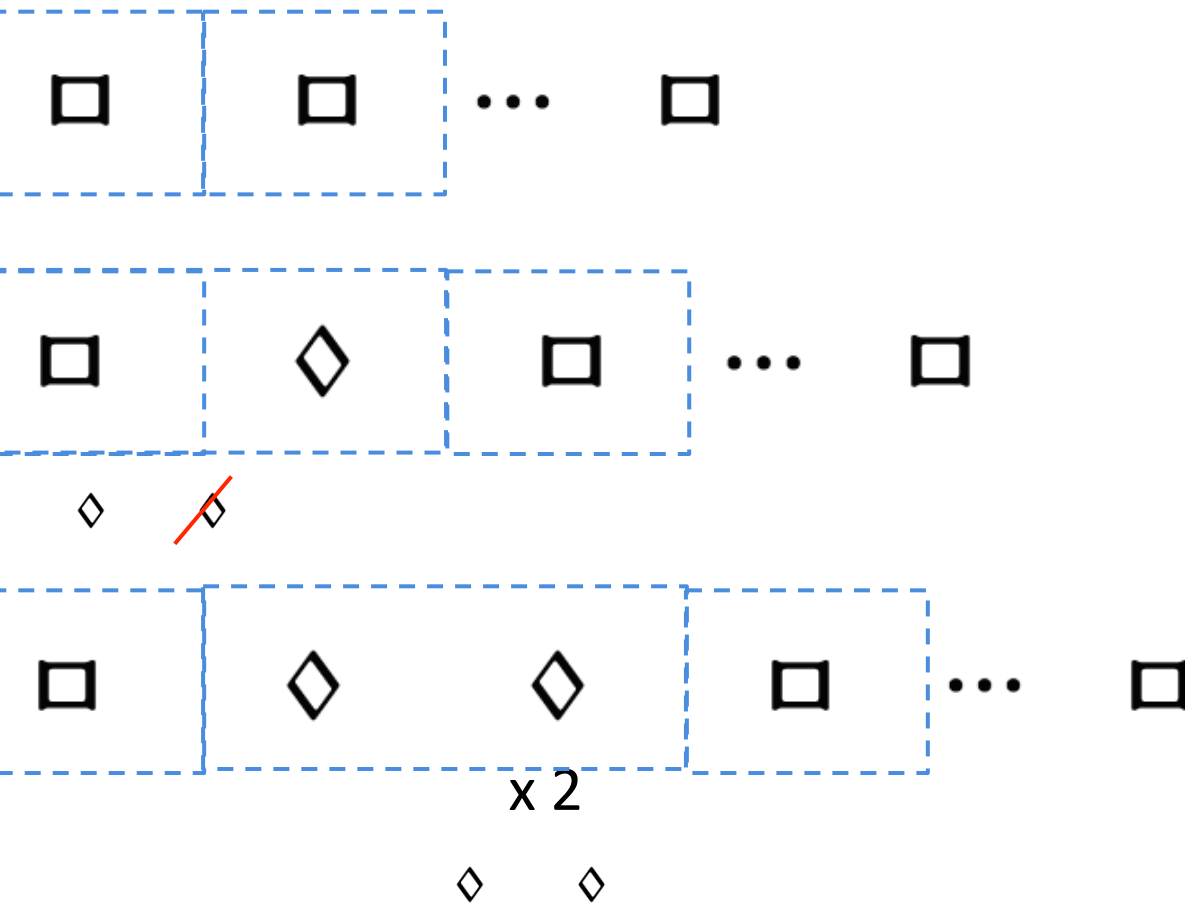
It can either be triple (i.e., “perfect”) or duple (i.e., “imperfect”)

The value is determined by two factors:

- Mensuration
- Context

Examples of Context Changing the Note's value

Insulation: Breve = 3 → Breves are perfect by default



*Principles of
Imperfection
and Alteration*

Imperfection

Perfect → Imperfect

Alteration

Scoring-up tool

Deals with the context-dependent nature of mensural notation

- By implementing the “principles of imperfection and alteration”

Deals with other non-context related features:

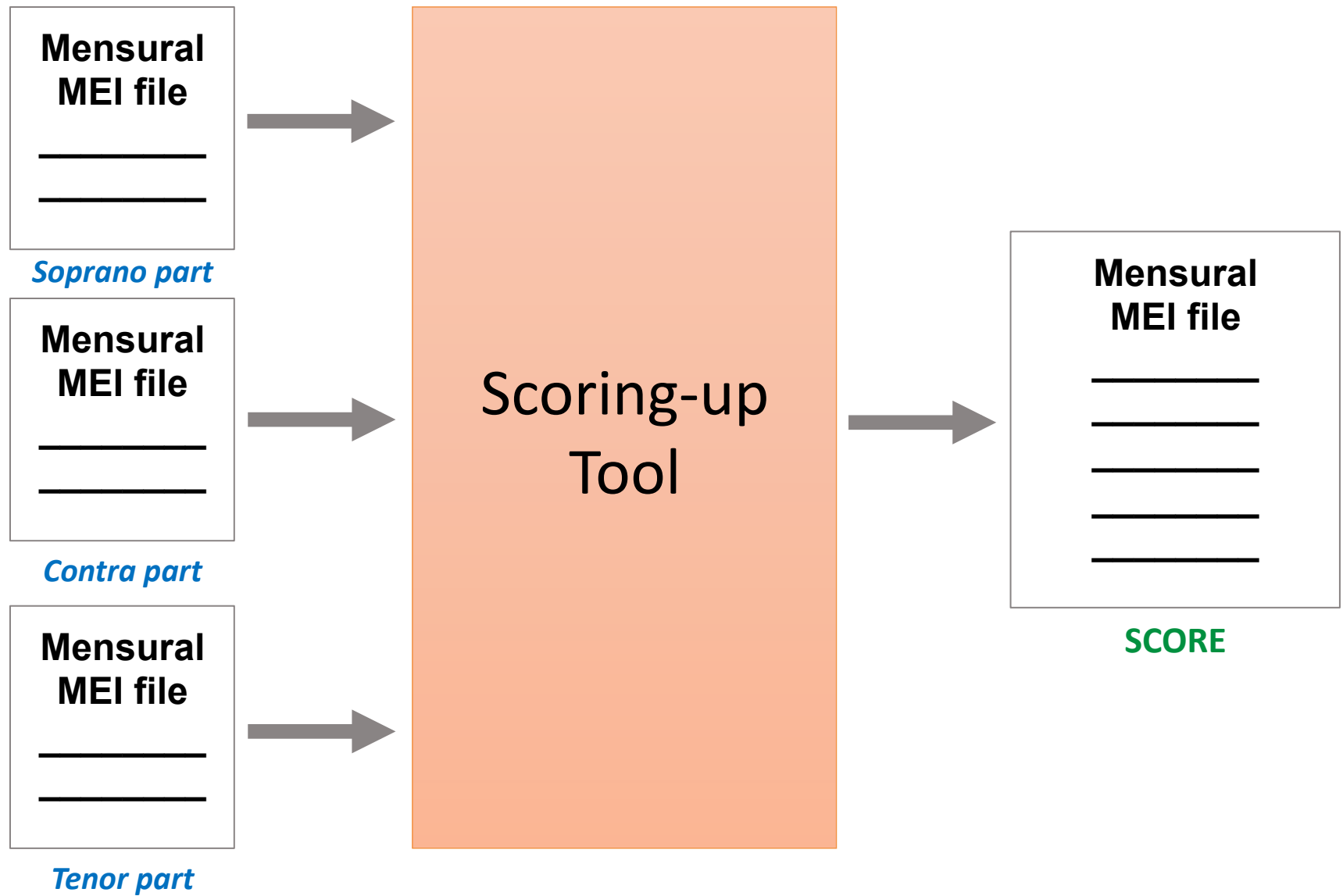
- Dots of Augmentation →

When?

Distinguish between “dots of division”
and “dots of augmentation”

- Coloration →

When coloration has an effect on the note value?



Example: Parts



Without using the Scoring-up Tool



With the Scoring-up Tool



Conclusions

The scoring-up tool presents the piece in score format

Facilitates visualizing the vertical sonorities and studying the relation between the voices of a piece, which was difficult given the separate-parts layout of the original sources

Preserves the original note values

Thank you!

SIMSSA | Single Interface for Music
Score Searching and Analysis



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