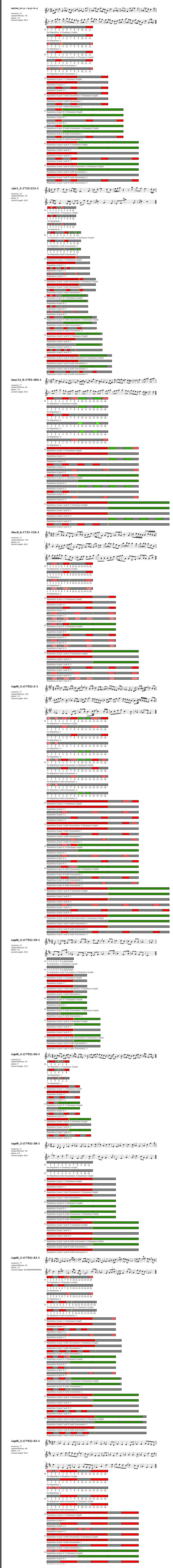


'AnalyzeSrttf' – a tool for identifying small musical forms in larger music corpora

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Example



Aims of the Software

- Contributes to reconstruct the history of the spread of the small rounded two/three-part form (srttf) throughout late-17th and 18th- century Europe
- Identifies the srttf in larger music corpora
- Is compatible with latest theories of musical form describing form as effect of a toy block method (to be distinguished from the concept of form as mould) ([2], [3], to some degree: [1])
- Provides full visual control over the analytical results of each individual piece
- Allows the direct comparison of pieces with each other
- Complies with the principle of simplicity
- Reflects specificities of the 17th/18th-century repertoire (ambiguous repeat signs, melody-constitutive grace notes)

The tool's guiding principles

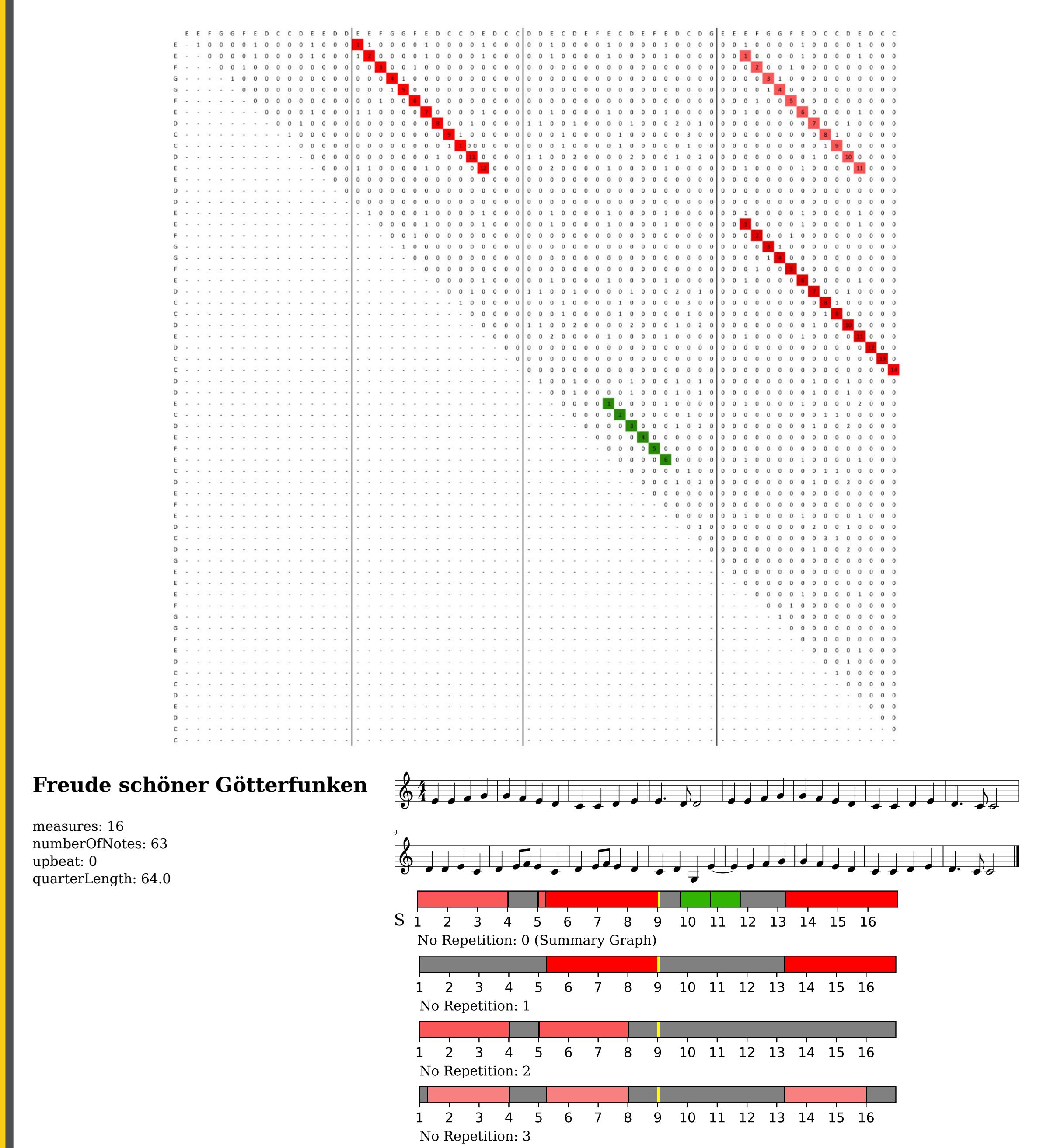
- Applying a variant of the longest common substring algorithm that identifies all common substrings (ex. 1)

ACS algorithm: string a, string b

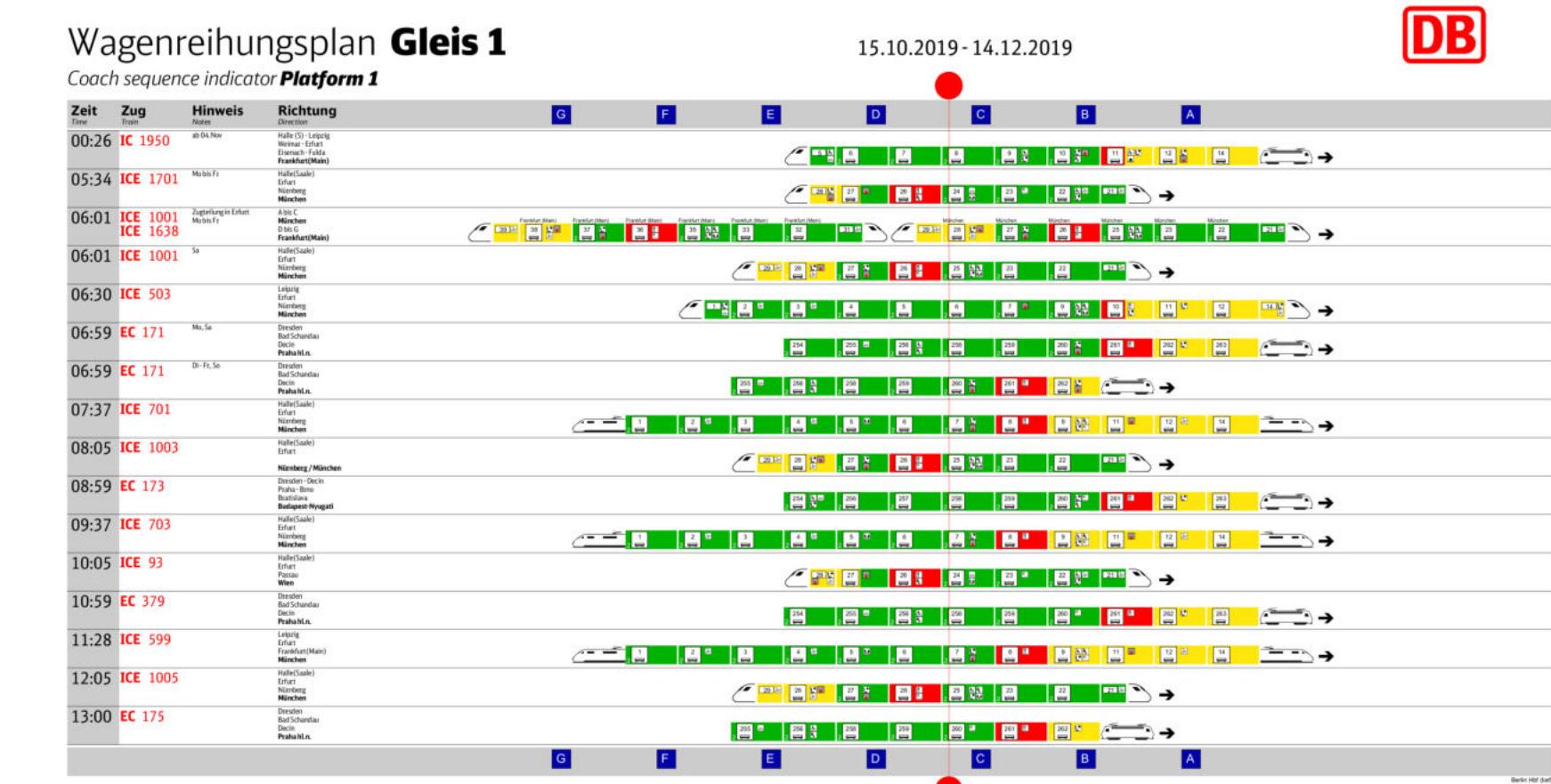
$$\text{acs}_{a,b}(i,j) = \begin{cases} \text{acs}_{a,b}(i-1, j-1) + 1 & \text{if } a(i) = b(j) \\ 0 & \text{else} \end{cases}$$

- Building on the DB-position indicator for developing a graph-color scheme on an infinite canvas (ex. 2)
- Visualizing several variants of a composition (with and without repetitions and grace notes (ex. 3)

Examples

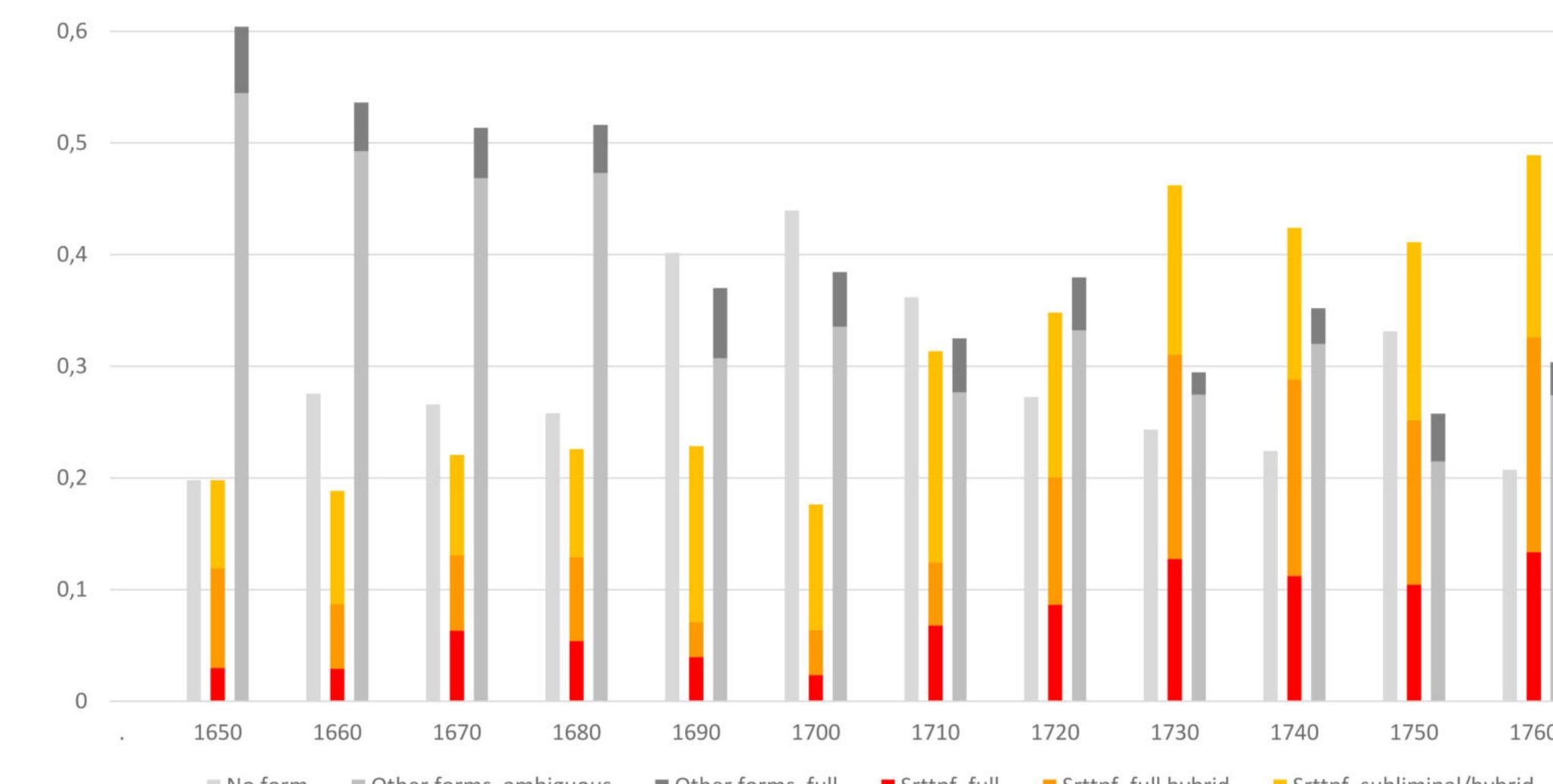


Ex. 1: Multiple result of the ACS algorithm (top); its display on the HTML-leporello (bottom)

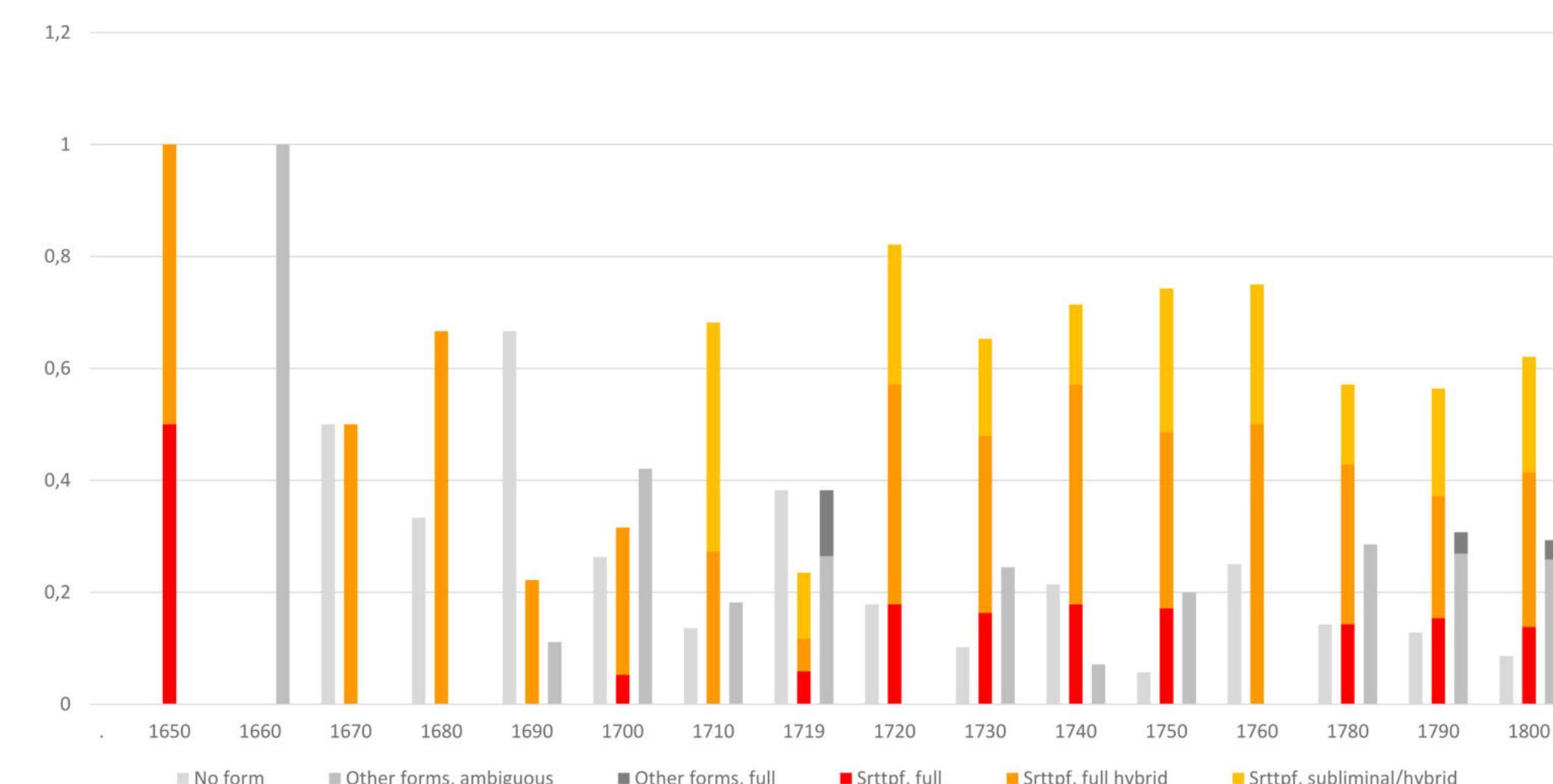


Ex. 2: Position display of trains on platform as used by Deutsche Bahn (© By courtesy of Deutsche Bahn)

Preliminary results



Ex. 4: The form of pieces in popular tune collections published in London between 1651 and 1765; percentages of form types within a decade



Ex. 5: The form of Scottish tunes published in London between 1651 and 1765; percentages of form types within a decade

In comparison to pieces without form and pieces with other forms, the number of pieces with srttf published in London increases throughout the 18th century (ex. 4). Scottish tunes, which became popular in the second half of the 18th century and for which British publishers commissioned Central European composers such as Haydn and Beethoven to arrange, seem to have played a significant role in increasing the popularity of the srttf not only in Britain, but also Central Europe (ex. 5).

Impressum

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<http://historiography-of-musical-form-through-mir.sbg.ac.at/>

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References

- W. E. Caplin. *Classical Form*, New York et al., 1998.
- F. Diergarten and M. Neuwirth. *Formenlehre: ein Lese- und Arbeitsbuch zur Instrumentalmusik des 18. und 19. Jahrhunderts*, Laaber, 2019.
- Y. Greenberg. Of Beginnings and Ends. A Corpus-Based Inquiry into the Rise of the Recapitulation, *Journal of Music Theory* 61:2 (October 2017): 171-200.