Musical Symbols at the Digital Age

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Good, less good, . . .

Writing music, not texts

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Express:

• pitches $\iff$ accidentals,
• rhythms,
• dynamics,
• ornaments (Baroque music, jazz),
• additional information.
Arranging parts within a score

Expressing:

• *sequential processes,*

• *parallel processes,* with *synchronisation points* or randomly,

• *linking* meta-information.
What is a Typesetting System for Music?

Developing new works? Often, workarounds are to be put into action.

Digitalising works of the past?
Musi\textsc{X}T\textsc{E}X

Any symbol may be pictured. Users are wholly in charge of placement.

But source texts are very difficult to maintain without a pre-processor (Bacho\textsc{TEX} 2011).
Other typesetting systems

LilyPond, MuseScore, . . .

Planned. . . not planned. . .
Musical symbols in Unicode

A large place is given to other (historical) systems, e.g., Gregorian chant.

Unicode categories:

- So $\leftarrow$ Symbol, Other
- Mc $\leftarrow$ Mark, spacing Combining
- Cn $\leftarrow$ other, not assigned (extra-symbols)

(Show.)
Symbols

More modern than MusiXTEX or LilyPond $\leftarrow$ micro-accidentals.

OK for jazz ornaments.
Missing ornaments

Many Baroque ornaments are missing. (Show.)
Replace them by corresponding realisations?
Controversial!
Music, not books!

Text $\rightarrow$ accented letter = combining accent + letter (possibly already accented).

Music: OK for information about:

- slur, accents, bow positions,
- dynamics,
- grace notes,
- ...
Stems!

*All the stems figured are up.* Putting such a stem up or down is a matter of style, isn’t it?

Often, but not always! (Show.)
Chords

Putting stems up or down, again.

Repeated notes. (Show.)
Conclusion

Good effort, but:

presently, no musical typesetting system uses it, as far as I know,

rules for combining marks are not fully explicit, except for very simple cases.

Unicode’s musical symbols are supposed to belong to left-to-right writing systems, whereas the process specified has many dimensions.