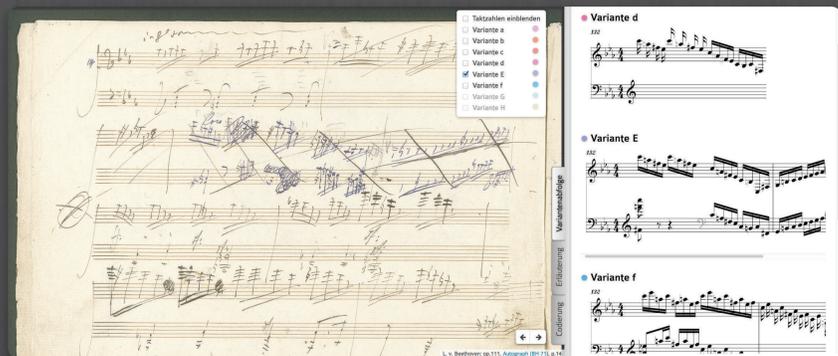


# Encoding Musical Variants in MEI

## A Survey of the First Module of "Beethovens Werkstatt"

In its first module the project "Beethovens Werkstatt" focussed on the investigation and digital representation of variants from different musical genres in Beethoven's manuscripts in order to basically understand his working strategies. Starting with the analysis of the writing process and the definition of (open and closed) variant-types, the project developed step by step textgenetical concepts: The first one, **sequence of variants**, aims to determinate the chronological order of the variants by classifying them in ad hoc and revision writing processes; the second one, **invariance**, explores the textual identity within the sequence of variants; finally the third one, **reconstruction**, develops methods for the re-dynamisation of the writing processes for one or more textual scars and for one or multiple sources.

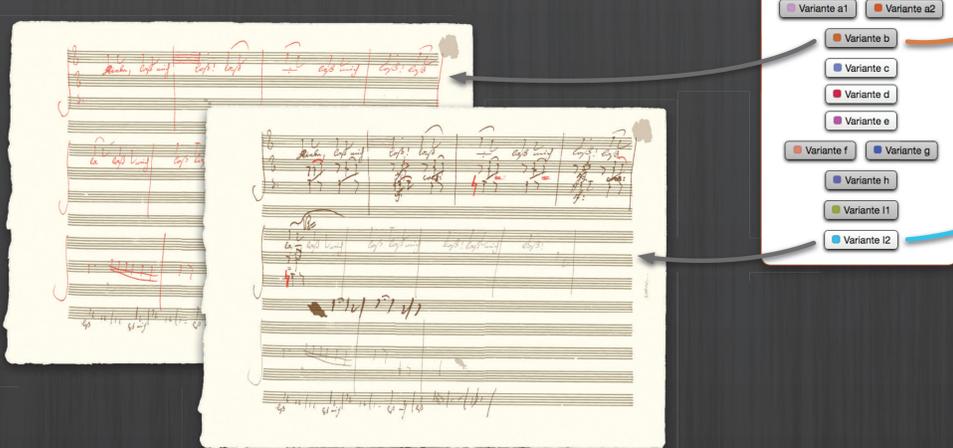
## 1 Sequence of Variants



Case study 1: Piano Sonata op. 111, first movement, mm. 132–134

The focus here is on identifying the sequence of variants as well as the chronology of the writing process. The user interface is derived from the MEI-encoding, which references the SVG-shapes in the document (facsimile) and is used to render MEI into music notation. Note the progress in quality since this early version of the renderer, which dates back to 2014 (cf. case study 5).

## 3 Reconstruction



Case study 3b: Lied *Neue Liebe, neues Leben* op. 75,2, closing measures

Abandoning the initial idea of using different colors to demonstrate the different layers (as in op. 59,3) the writing process is illustrated using only one color plus overlays in a step-by-step visualization of the chronological sequence.

## Transferability



Case study 4: Symphony No. 8 op. 93, closing measures of movement 1

Extension for cases with multiple sources: The variants here are scattered on various manuscripts. A digital reconstruction viewer visualizes the interdependencies existing between the variants in simultaneously shown manuscripts.

## 2 Invariance

Which details are inherited from one variant to the next?



Case study 2: String Quartet op. 59,3, second movement, mm. 34–35

Beethoven's dialogue with his own text and his habit of recycling motivic elements are shown as colored SVG-shapes controlled by MEI-encodings, which in addition may display the sequence of variants as well as the different writing layers in the manuscript.

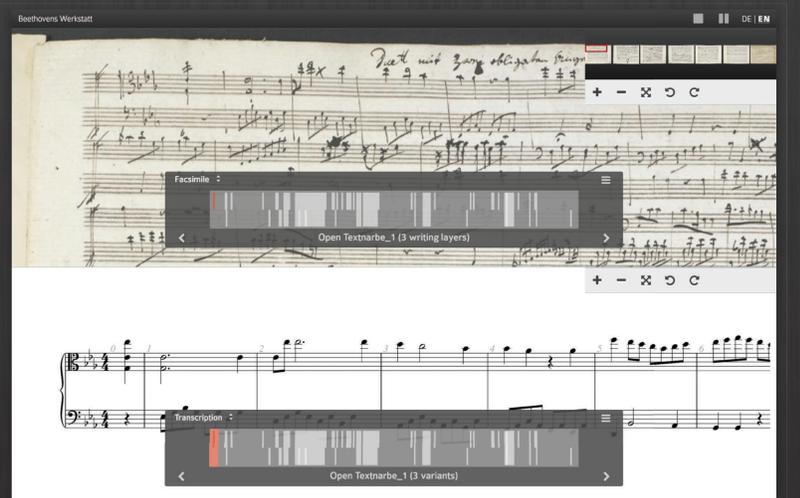
Case study 3a: Lied *Neue Liebe, neues Leben* op. 75,2, closing measures

The concept of invariance is now only demonstrated in the rendering. Furthermore a new MEI invariance viewer was developed (inherited motifs keep the same color within all variants).



Case study 5: *Duett mit zwey obligaten Augengläsern* WoO 32, first movement

Extension for cases with multiple textual scars: With this string duet for viola and violoncello for the first time variants in a whole movement should be handled: Each is presented with its individual chronology, systematized by categories and visualized within the musical context.



This is done with the new *VideApp* which brings together all previous approaches in a cleaned version and combines the different functions into one single interface, coordinated on the base of the MEI-encodings.