Towards a multi-modal exploration platform for German poetry

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The project »textklang«: An interdisciplinary collaboration

Digital Humanities:
- qualitative analysis
- computer-aided analyses

»textklang«:
- adding sound to digital text analysis: recitations and music settings

Collect

1. Audio data:
   - auditory collection of recordings of Romantic works from German Literature Archive (DLA) including ca. 2.700 recordings (recitations and musical performances)
   - broad variety of speakers (1920s – 2020)
   - analogue recordings digitised and cut

2. Textual data:
   - identify text source
   - extract text from TEI from online repository Textgrid
   - manually revise text according to exact edition and wording of speaker

Collect, store and exhibit

Repository: Omeka-S
- collect metadata using a project- specific resource template
- store text and audio file
- combine individual items to item sets
- exhibit items, item sets or larger parts of corpus:

https://textklang.org

Annotate

Data preprocessing and automatic annotation largely follow pipeline as developed for GRAIN corpus ⇒ extensive annotations of both the written material as well as the speech data:

Text data
- Tokenisation and Part of Speech:
  - TreeTagger (Schmid, 1994)
- Sentence segmentation based on punctuation tokens
- Annotation of end of line and end of stanza
- Dependency parses and constituency parses:
  - IMS-SZEGED-CIS (Birkholzard et al. 2013)
  - Mate (Bretel and Howe 2015)
- BiBiPar (Schneider 2000)
- IMS-Trans (Birkholzard and Howe 2015)
- Stanford Parser (Chen and Manning 2003)

Audio data
- Acoustic segmentation and alignment (Rapp 1995)
- Festival version of University of Stuttgart (IMS Festival 2010)
- Parametrisation intonation events (PaIntE) for each syllable (Möller 2001, 1998; Möller and Conkie 1986)
- Syllable properties (duration, position in word; lexical stress, pitch etc.)
- word duration
- PaintE-based prediction of GToBI(S) labels for pitch accents and boundary tones (Schweitzer 2010)

Explore

ICARUS: a desktop application for data exploration and visualisation (Gärtner and Thiele 2021)

Manipulate

- synthesis model based on FastSpeech2 architecture (Ren et al. 2021)
- implemented with IMS Toucan Speech Synthesis Toolkit (Lux 2022)

Poetry from the Romantic era (appr. 1795 - 1835)
e.g. Hölderlin, Mörike, Novalis, von Eichendorff, Heine, Schiller ...

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