

University of Stuttgart Germany

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# Towards a multi-modal exploration platform for **German poetry**

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# »textklang«

The project »textklang«: An interdisciplinary collaboration







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#### 1. Audio data:

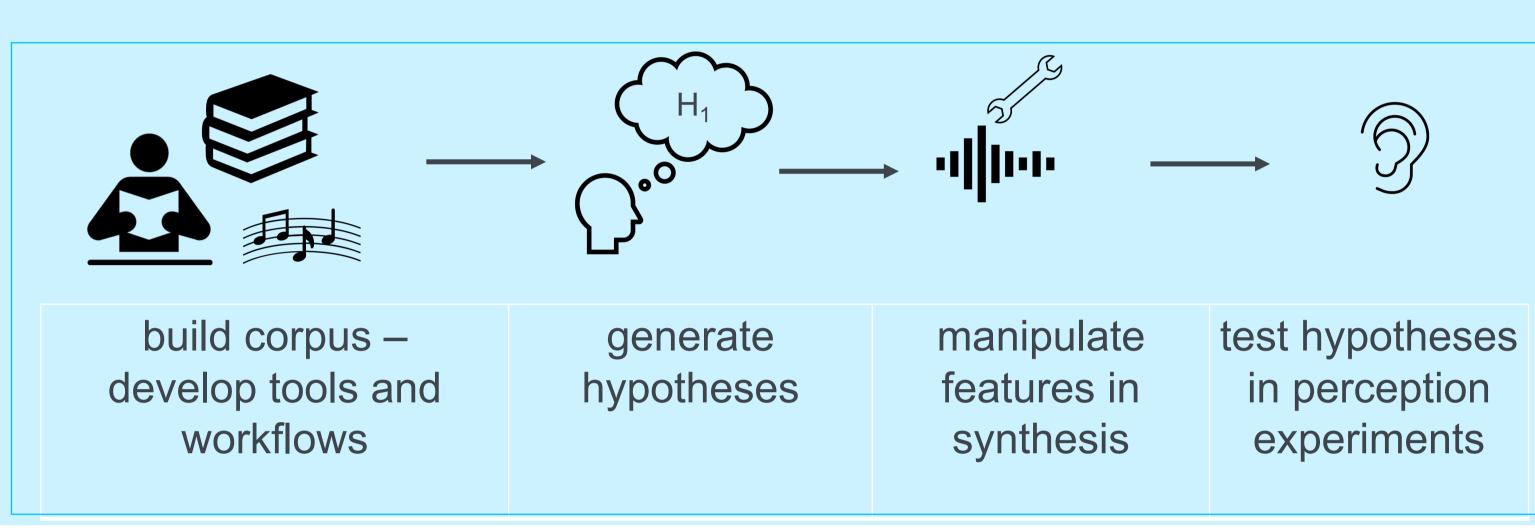
 auditory collection of recordings of Romantic works from German Literature Archive (DLA) including ca. 2.700 recordings (recitations and musical

### »textklang«:





adding sound to digital text analysis: recitations and music settings



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

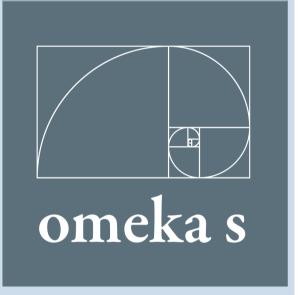


Poetry from the Romantíc era (appr. 1795 – 1835) e.g. Hölderlín, Möríke, Novalís, von Eíchendorff, Heíne, Schiller ...

## **Collect, store and exhibit**

## **Repository: Omeka-S**

- collect metadata using a project- specific resource template
- store text and audio file



## Annotate

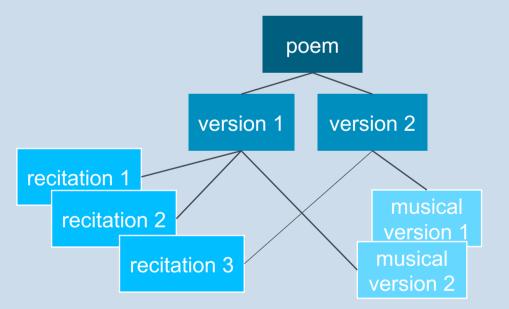
Data preprocessing and automatic annotation largely follow pipeline as developed for **GRAIN** corpus  $\rightarrow$  extensive annotations of both the written material as well as the speech data:

#### **Text data**

Audio data



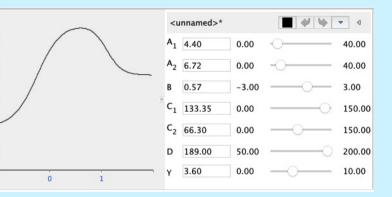
- combine individual items to item sets
- exhibit items, item sets or larger parts of corpus:



- 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 (Björkelund et al. 2013)
  - Mate (Bohnet and Nivre 2015)
  - BitPar (Schmid 2006)
  - **IMSTrans** (Björkelund and Nivre 2015)
  - Stanford Parser (Chen and Manning 2003)



- Acoustic segmentation and alignment (Rapp 1995)
- Festival version of University of Stuttgart (IMS Festival 2010)
  - Parametrised intonation events (PaIntE) for each syllable (Möhler 2001, 1998; Möhler and Conkie 1998)
  - 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

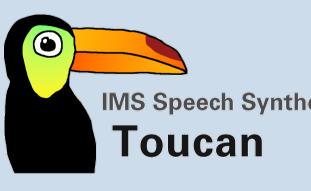
https://textklang.org

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

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Interactive platform for Corpus Analysis and	
Research tools	Universität
University of Stuttgart	Stuttgart
Statigart	
© Markus Gärtner and Gregor Thiele 2012-2015	1 × M × S
Collecting plug-ins	

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### Manipulate

**IMS Speech Synthesis Toolkit** 



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Wünderhorn

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• synthesis model based on FastSpeech2 architecture (Ren et al. 2021)

• implemented with IMS Toucan Speech Synthesis Toolkit (Lux 2022)

Train:





