Using Linked Data Techniques for Creating an isiXhosa Lexical Resource - a Collaborative Approach

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Agenda

- Language Diversity in South Africa
- isiXhosa Data Set
- Bantu Language Model (BLM)
- CLARIN integration and Dissemination
- Further work
Language Diversity in South Africa

- 11 official languages, including 9 Bantu languages

Source: Stats SA
isiXhosa in South Africa

- Spoken in the Eastern Cape and Western Cape regions
- Approximately 8.1 million first language speakers (16% of South Africa's population)
- Nguni language: conjunctive orthography where bound morphemes are attached to words
- Resource scarce language, especially regarding lexical resources; no machine-readable lexicons freely available
isiXhosa Data Set (1/2)

- isiXhosa dictionary
  - Based on data by J.A. Louw and S. Bosch
  - Digitization starting with index cards
  - Still work in progress, finished until Mid 2019
  - Available data:
    - Part of speech, noun classes and prefixes, singular/plural forms, English translations
- Current status:
  - ~4,000 nouns, ~2,700 verbs, ~8,000 translations
### isiXhosa Data Set (2/2)

- **isiXhosa nouns (excerpt):**

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
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CLARIN Annual Conference 2018, Pisa
Bantu Language Model (1/2)

- Structured using Bantu Language Model (BLM)
  - RDF/OWL-based ontology
  - Based on the *Multilingual Morpheme Ontology* (MMoOn)
Bantu Language Model (2/2)

- Access via dedicated Web page, SPARQL endpoint and downloads

Source: https://rdf.corpora.uni-leipzig.de/lexeme_ibhatata_n.html
CLARIN Integration and Dissemination

- Joint work of three partners, providing their linguistic and technical expertise
- Resource currently hosted at CLARIN-D centre Leipzig and GitHub
  - https://rdf.corpora.uni-leipzig.de
  - https://github.com/MMoOn-Project/OpenBantu
- "Final" resource hosted at SADiLaR Resource Catalogue
CLARIN Integration and Dissemination

- Usage of Handles & CMDI metadata
- Strategy for integrating LLOD in CLARIN?
Dissemination
Further Work

• Continuing work on the data and QA
• Combination with open text corpora
• Open data services for a federated lexicographical infrastructure
  – Prototype: CBOLD data for lexical alignment based on English translations
• Annotation services: WebLicht?
• ?
Thank you!

Questions? Remarks?