Entity Linking in the ParlaMint Corpus

An exploration of linking actors in parliamentary debates

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Intro

ParlaMint

- Collection of parliamentary proceedings from 17 European countries
- Unified in the TEI XML format
- Corpora are (automatically) linguistically annotated

Named Entities

Why are we interested in Named Entities?

- Important *anchors* in text
- Interactions between Named Entities (across languages)
- Linking entities across languages

Some ParlaMint Examples of Entities

St George, Mr Speaker, Chester, Tim Draycott, Charlotte Leslie, Jess, Halton

Entity Linking

Entity Linking

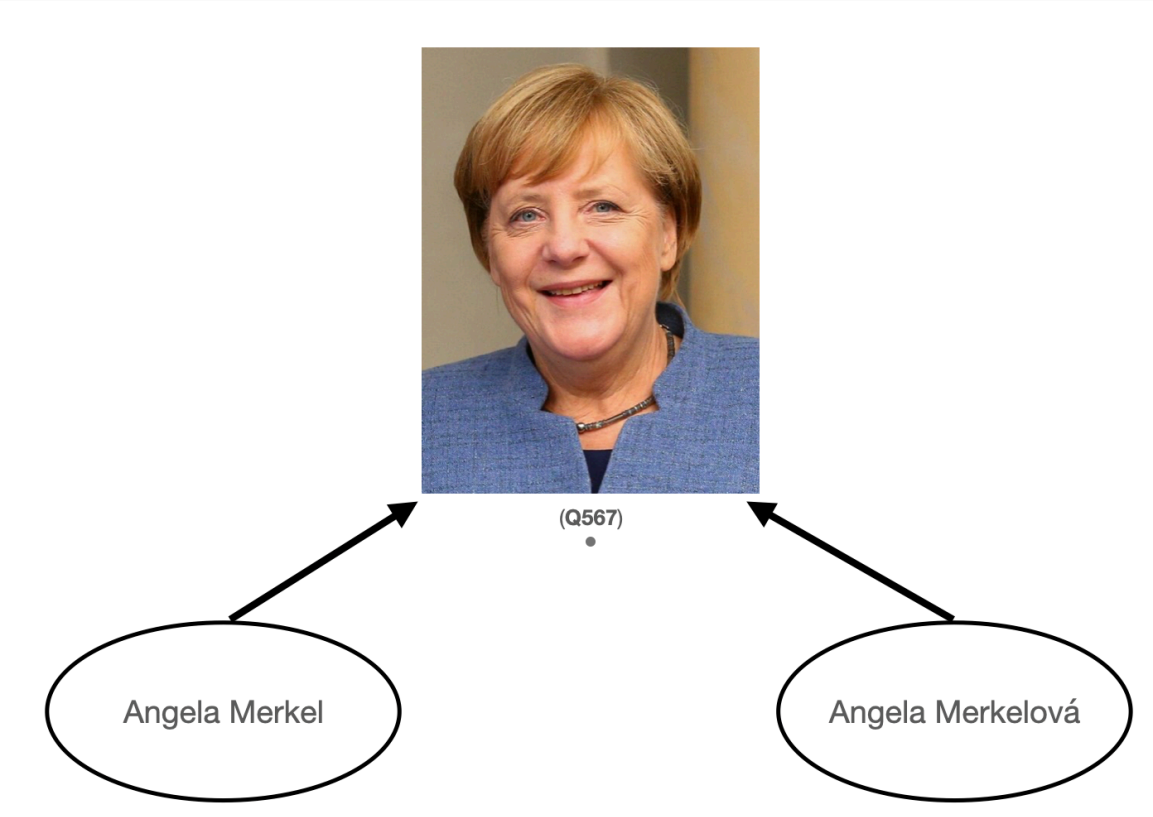
- Linking mentions of entities (persons, organization, locations etc) to a knowledge base

Entity Linking Example

Angela Merkel is the former chancellor of Germany. **Merkel** grew up in East-Germany.

Q-Items

- Cross-lingual identifiers from WikiData



Experiments

Naive Approach

1. Pick a (multilingual) Entity Linker
2. Run this entity linker over all languages
3. Use these results

Naive Experiment

1. Pick 20 ’international’ entities
2. Find mentions that include this entity as a string
3. Run a system on these entities (WikiData)

Naive Experiment

Country	Accuracy Score
PL	0.33
CZ	0.37
HR	0.29
IS	0.67
LV	0.16
BG	0.77
NL	0.91

Table 1: Accuracy of the WikiData system on a set of 20 entities,taken directly from ParlaMint

Why? Inflections, ambiguous entities

Ideal Case

Ideal Case Experiment

- Three systems
  1. YAGO [2]
  2. DPBedia [1]
  3. WikiData
- Selection of 100 local politicians from 10 countries for baseline tests

Usage of *Q-items* for multilingual Entity Linking

Entity Linking Baseline

Country	DBPedia	WikiData	YAGO
NL	0.97	**0.98**	0.56
DE	0.58	**0.94**	0.60
FR	0.95	**0.97**	0.95
CZ	0.31*	**0.95**	0.87
HU	0.75	**0.90**	0.73
EN	0.74	**0.87**	0.78
IT	0.18*	0.95	**0.97**
IS	0.67*	**1.00**	0.85
DK	0.69	**0.96**	0.79
TR	0.52	**0.97**	0.71
Mean	0.74	**0.94**	0.73

Table 2: Accuracy of DBPedia, WikiData and YAGO on 100 local politicians from 10 countries.

Baselines (2)

- Differences between language performance for DBPedia and YAGO
- Best performance for WikiData

Baselines (3)

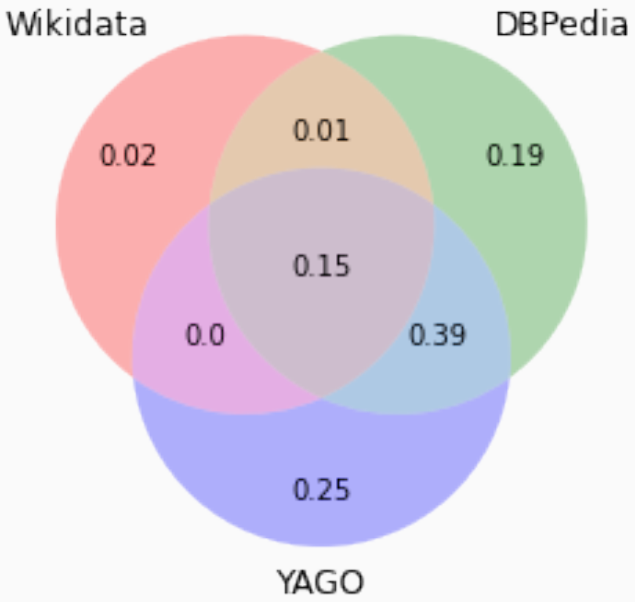


Figure 1: Error Analysis of the three systems used in the baseline experiment

Conclusion & Next Steps

Conclusion & Next Steps

- Differing coverage in systems for different languages
- Naive Approach does not work very well
- Developing / using algorithms to solve problems

Questions

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