

Cross-lingual Abstract Meaning Representation Parsing

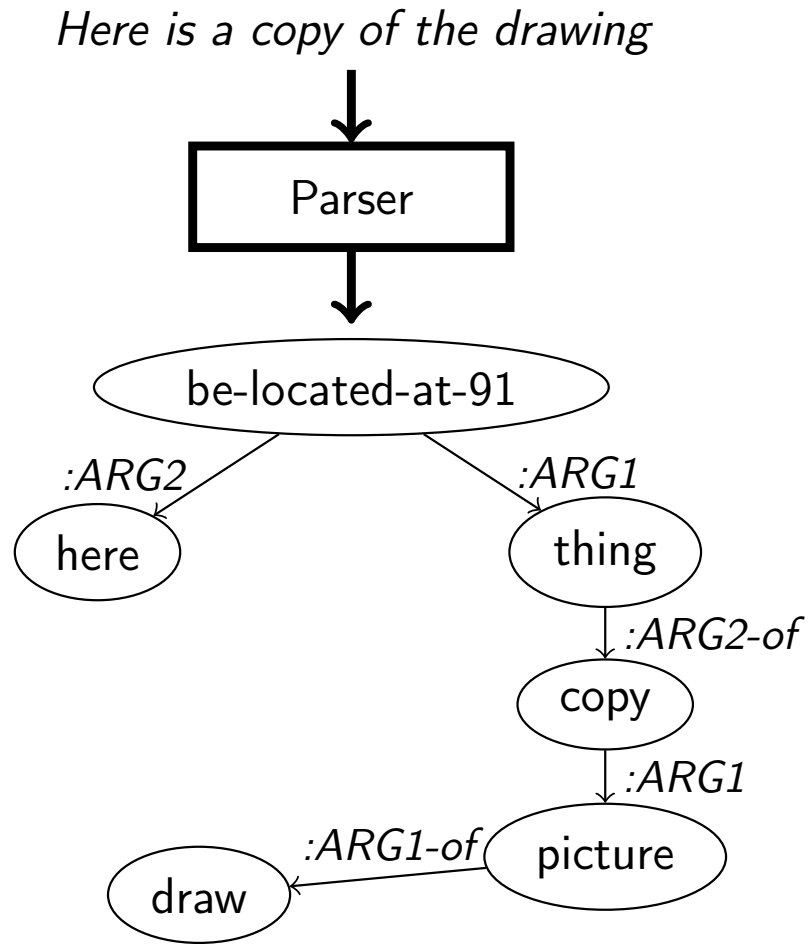
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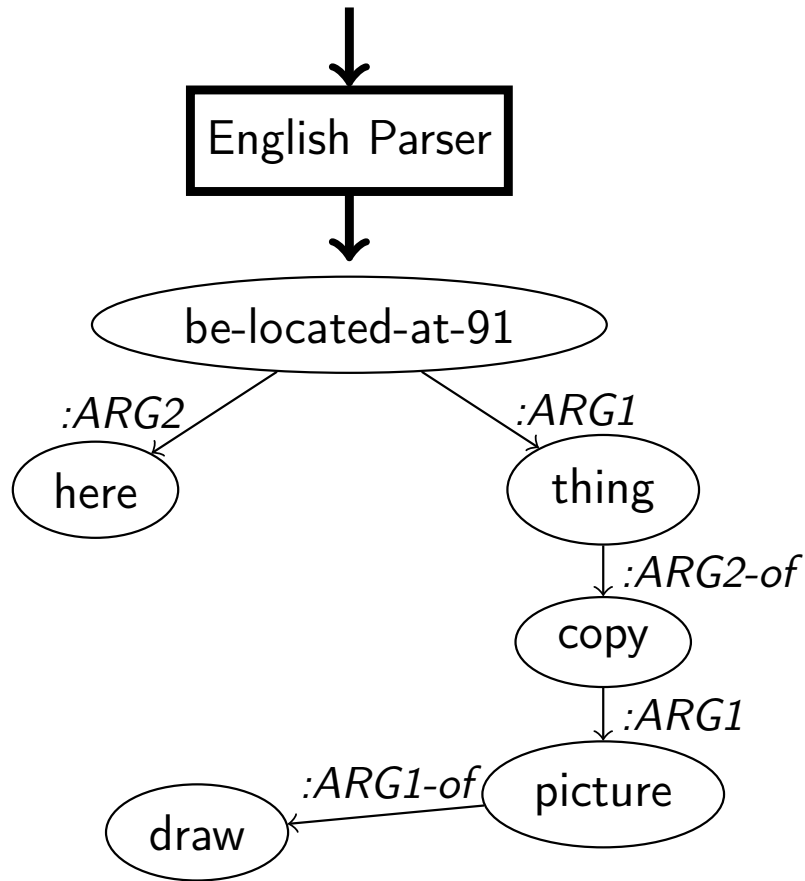
NAACL 2018

AMR Parsing

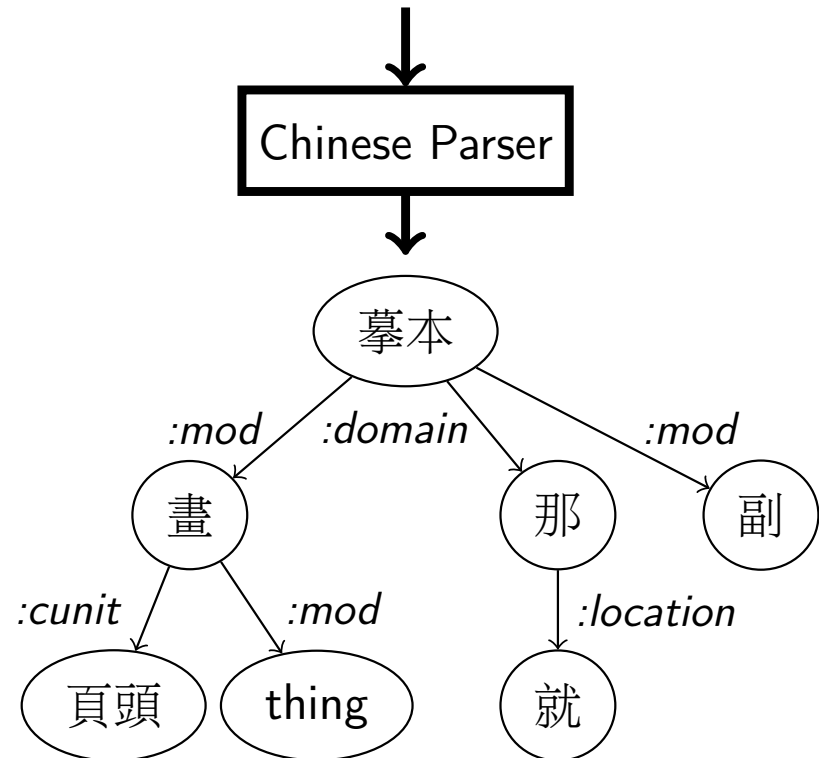


AMR for other languages (Bojar, 2014; Xue et al, 2014)

Here is a copy of the drawing



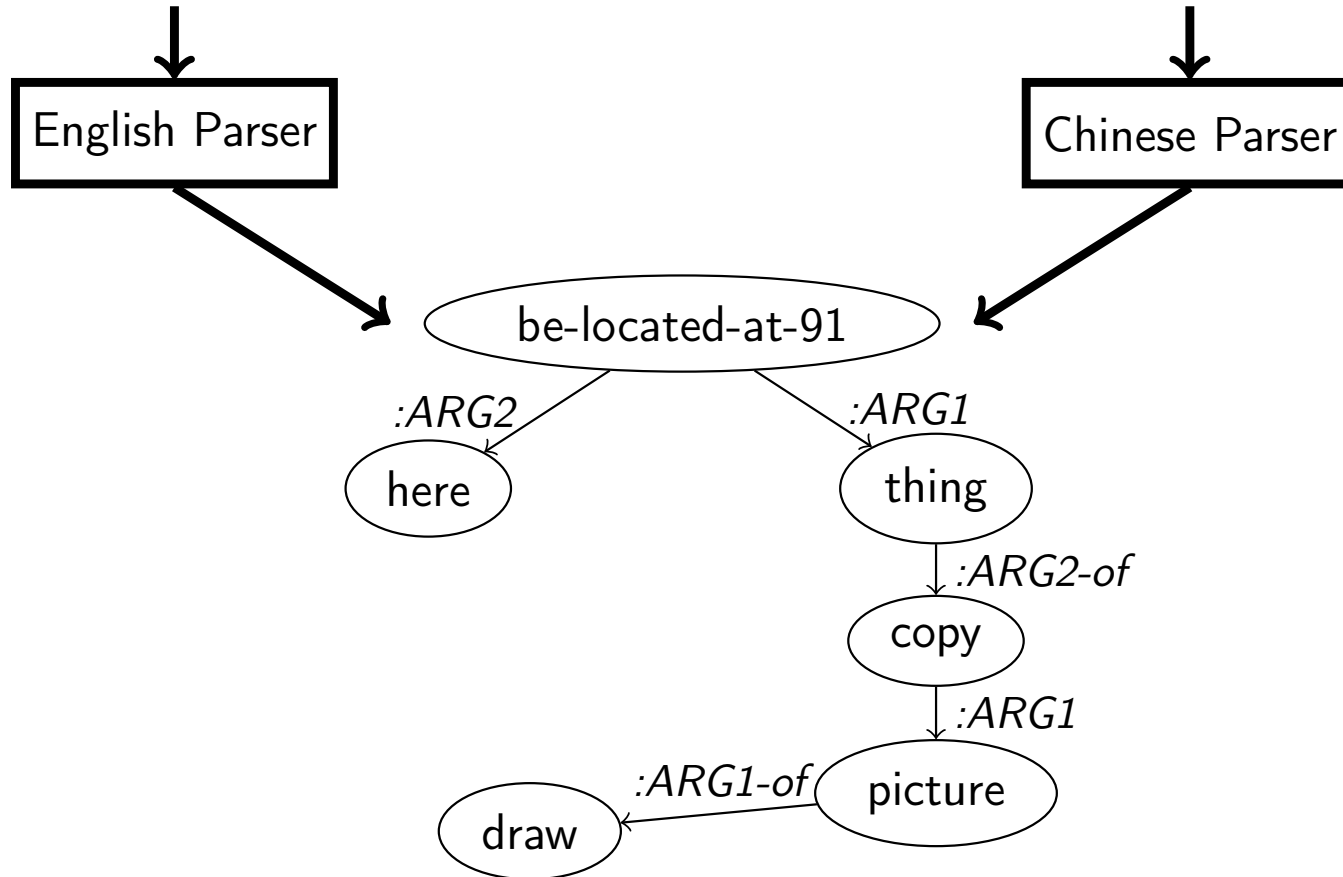
上就是那副的摹本



Cross-lingual AMR Parsing

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上就是那副的摹本



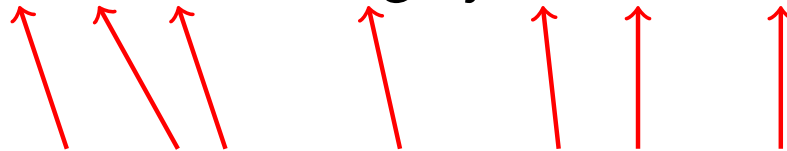
If AMR were an interlingua*..

- .. we would not need to translate the node labels.
- Can AMR act as an interlingua even if it is not one?

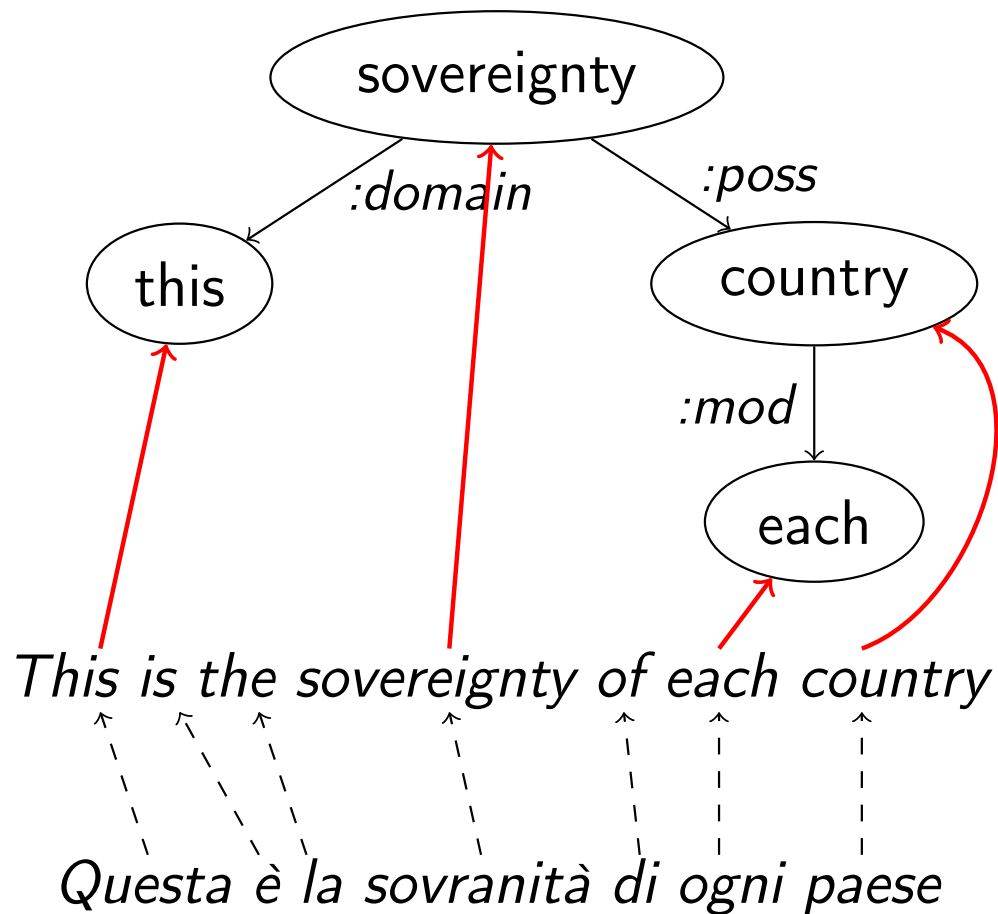
Annotation Projection

This is the sovereignty of each country

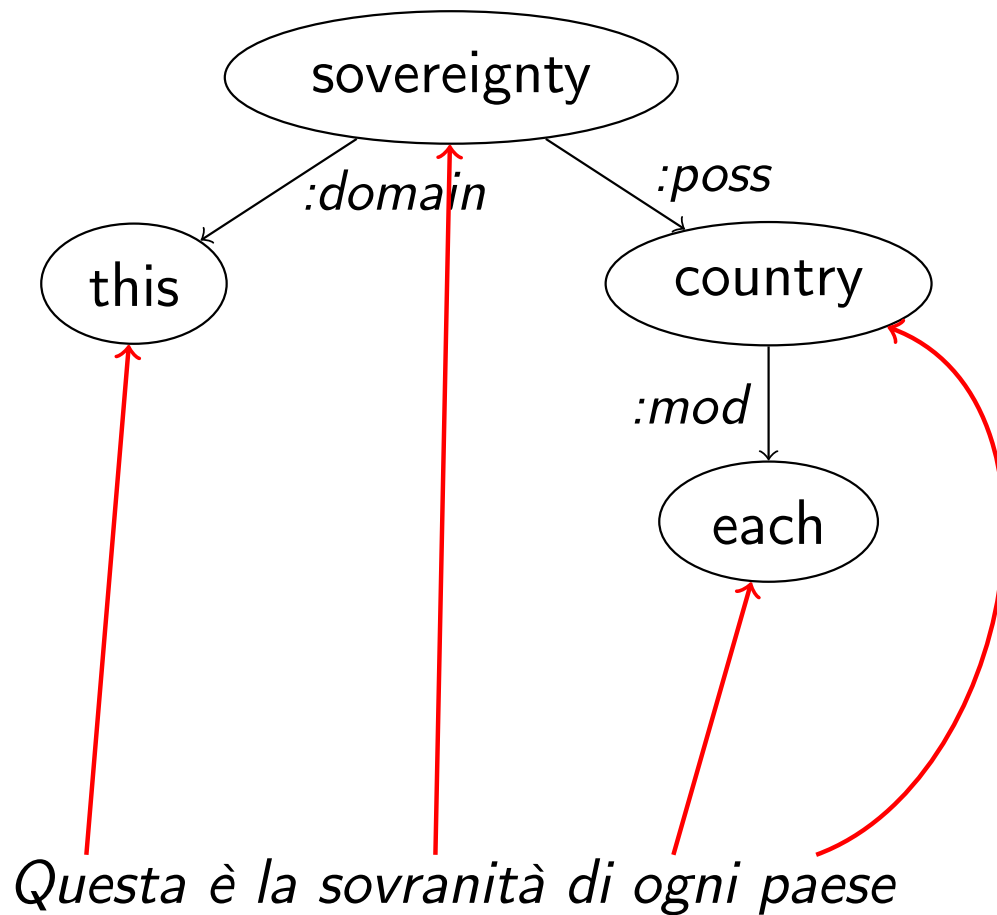
Questa è la sovranità di ogni paese



Annotation Projection



Annotation Projection



Alternative solution: Machine Translation

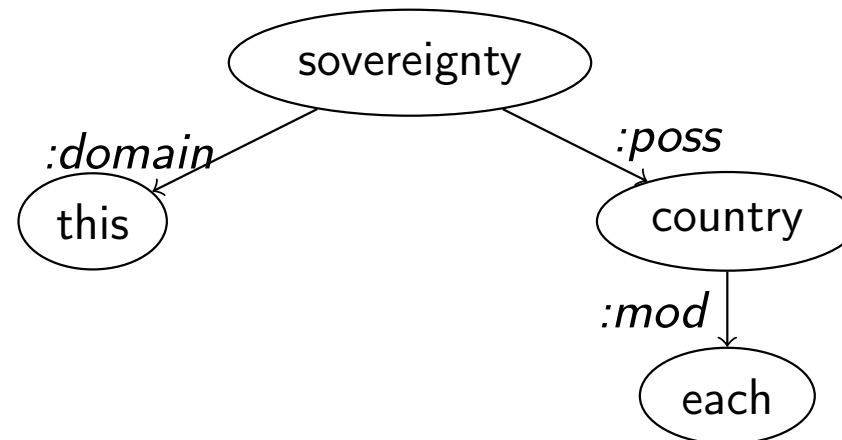
Questa è' la sovranità di ogni paese

37/5000

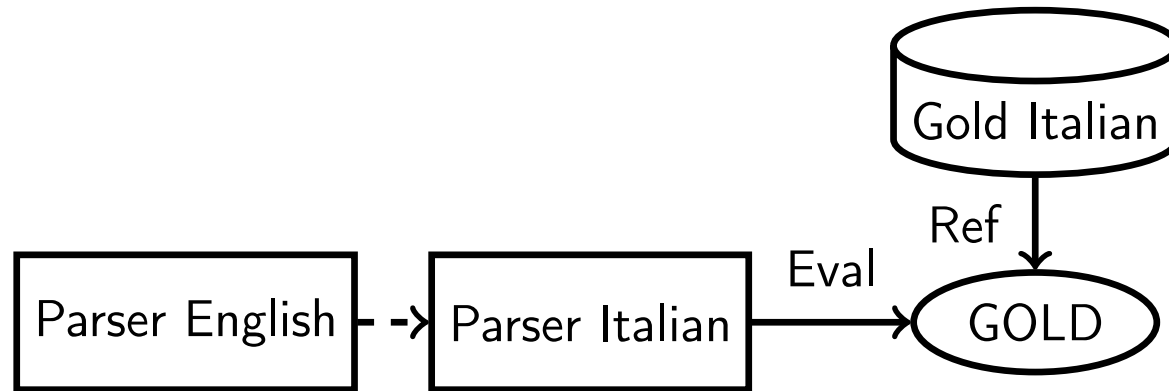


Is this the sovereignty of each country?

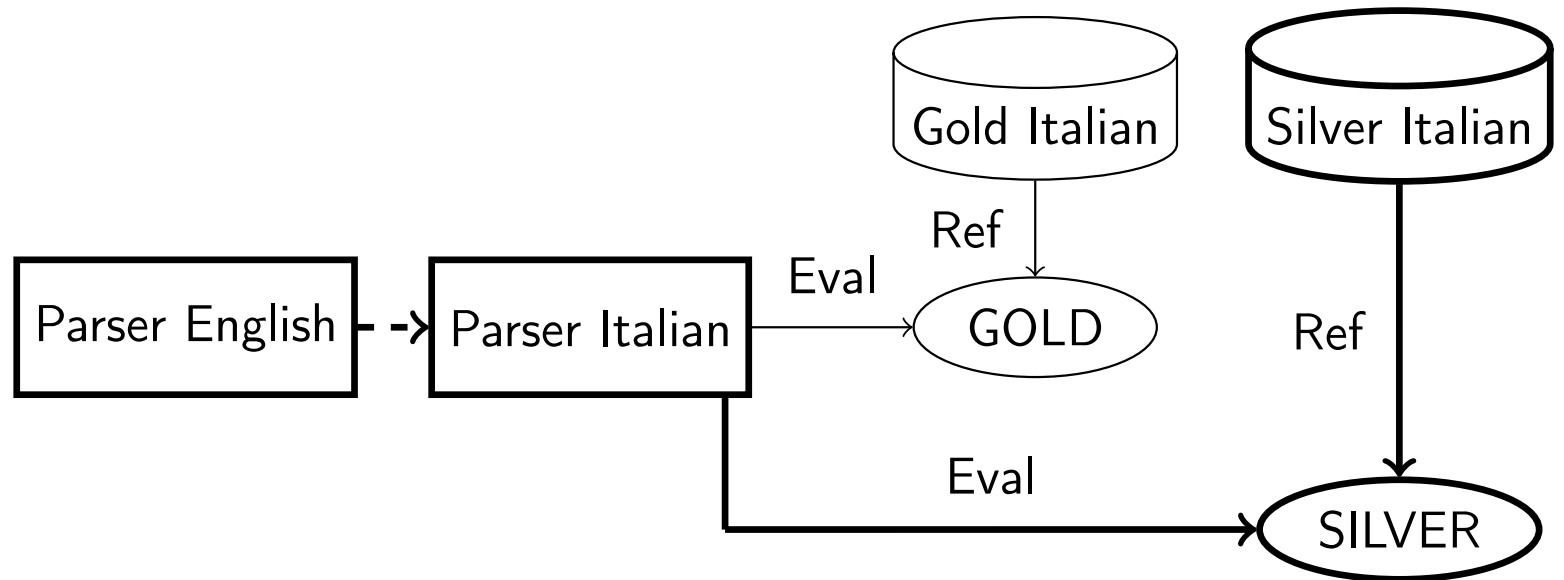
Suggest an edit



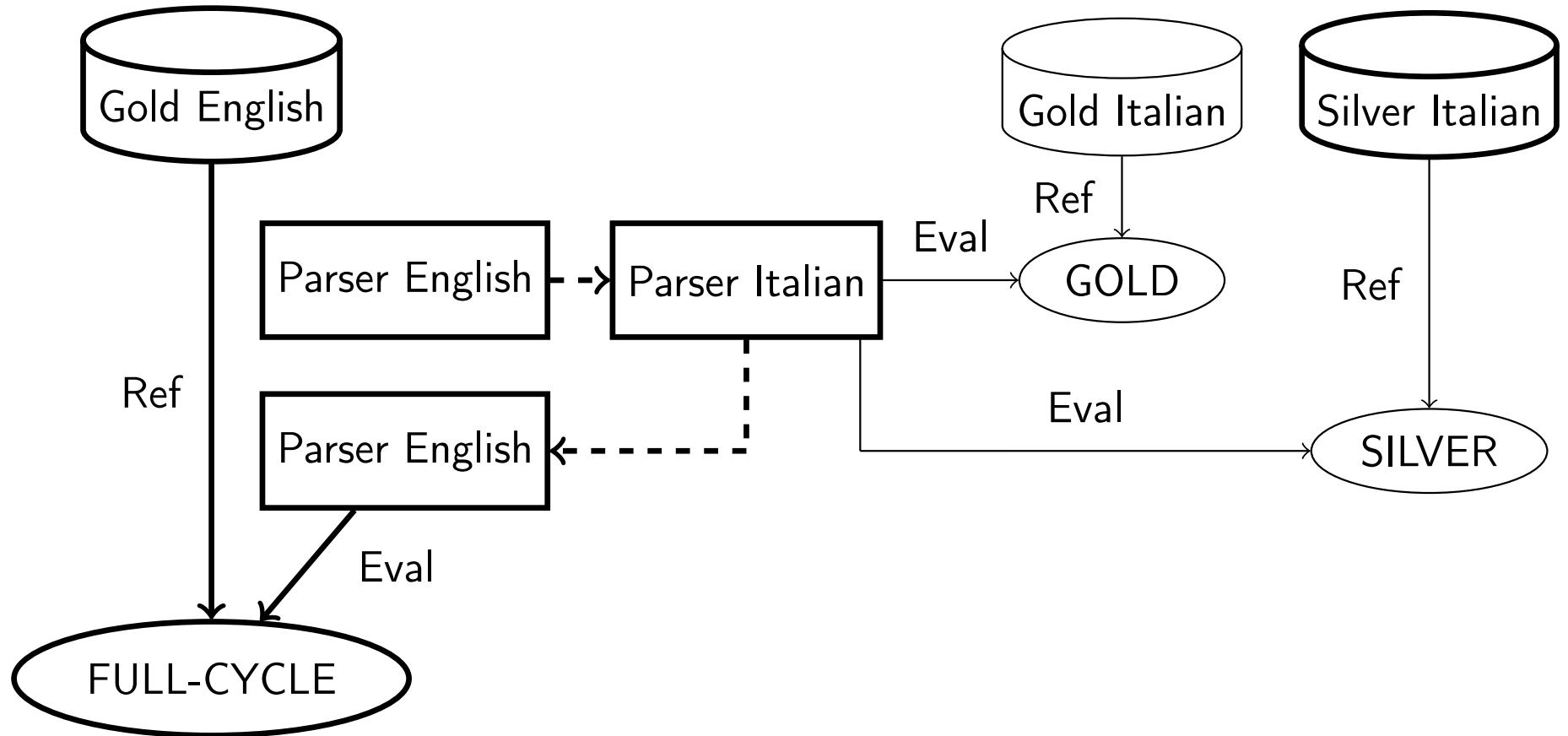
Evaluation



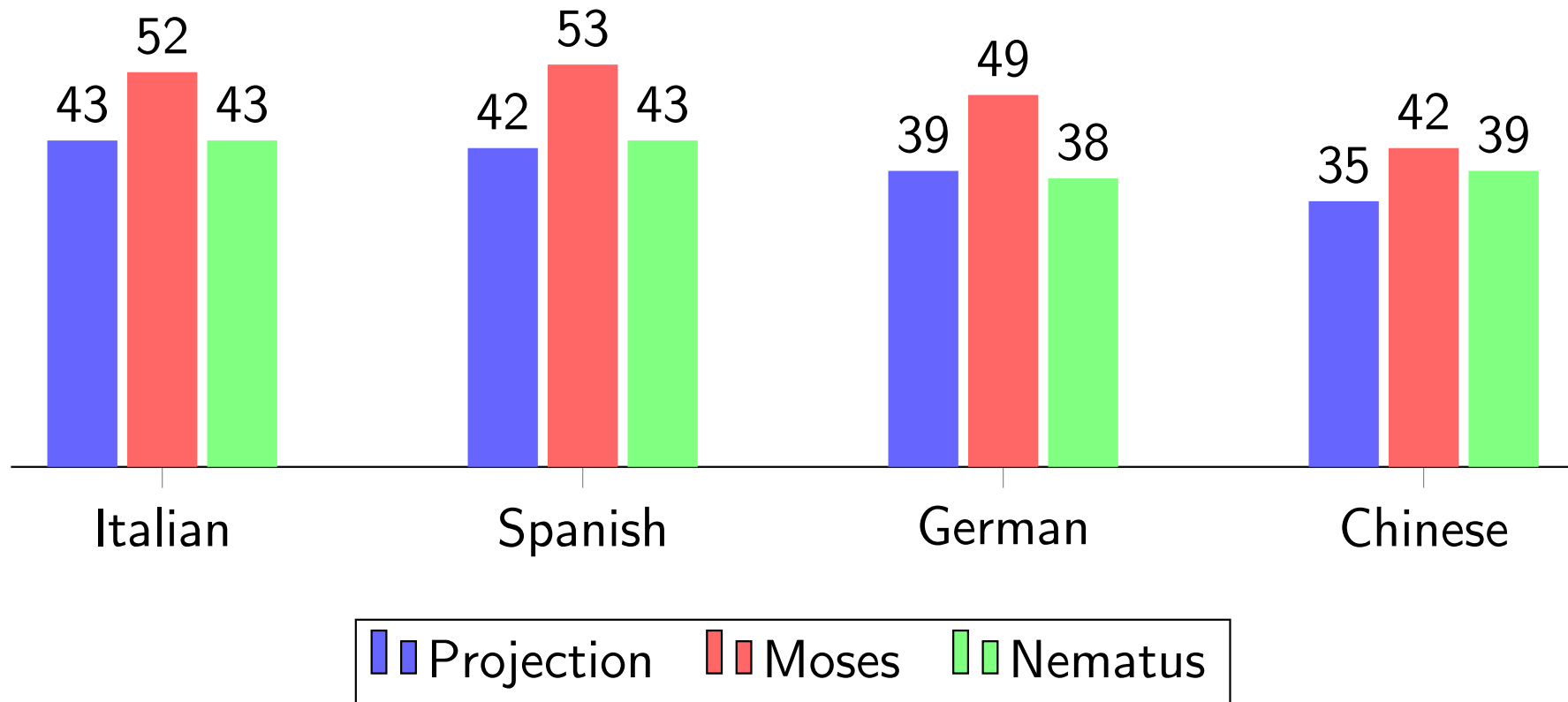
Evaluation



Evaluation



Experiments: Gold Evaluation

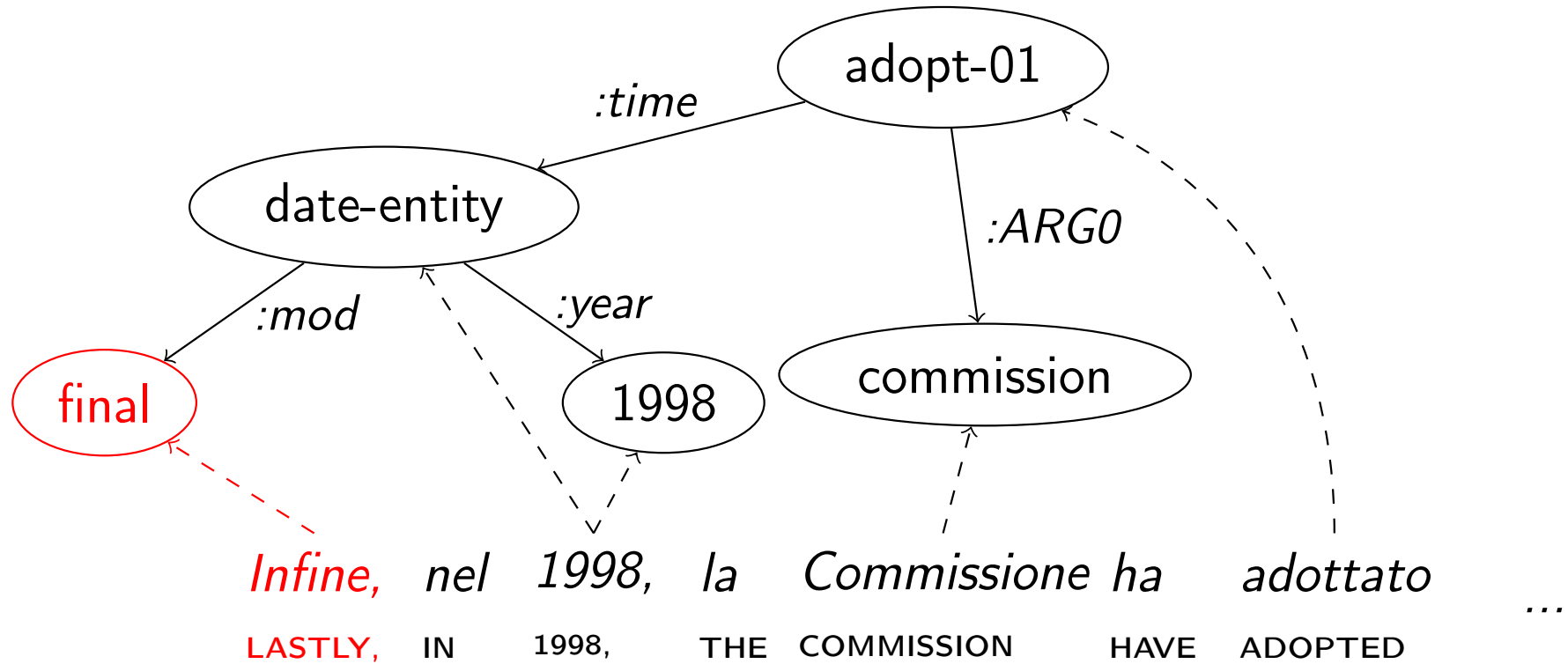


Analysis of Annotation Projection

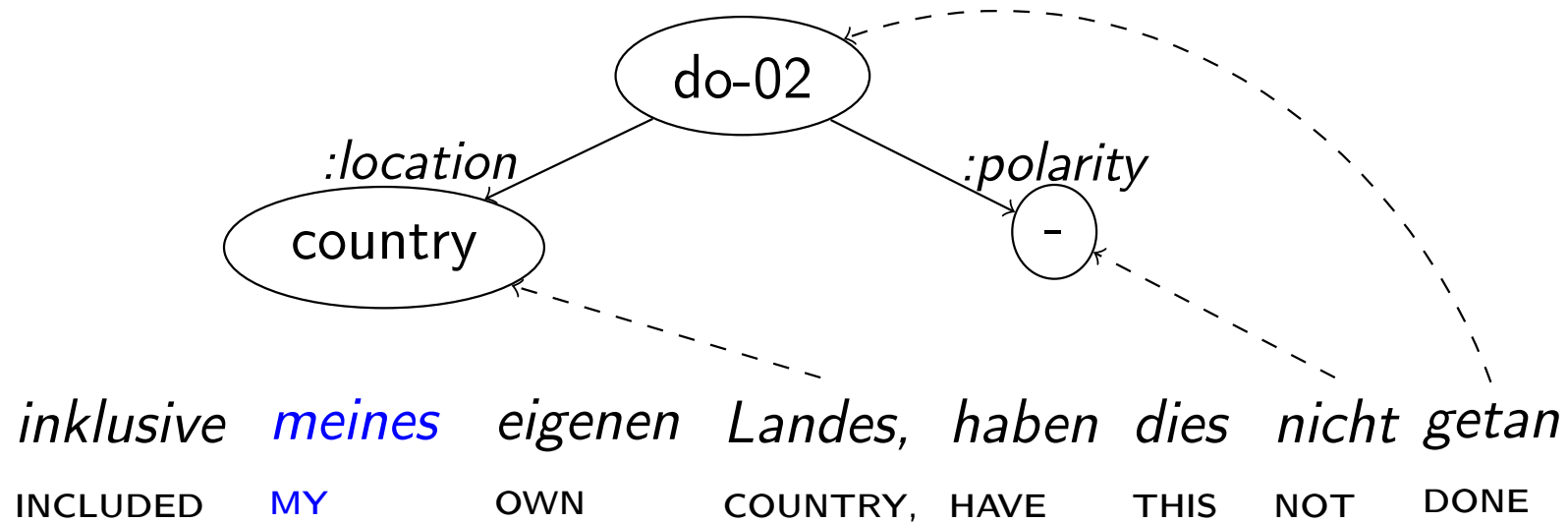
This approach is very noisy:

- Trained on data obtained with automatic parser for English.
- Projection uses noisy word alignments.
- AMR alignments on the source side are also noisy.

Analysis of Annotation Projection



Analysis of Annotation Projection



Analysis of Annotation Projection

Translational divergences:

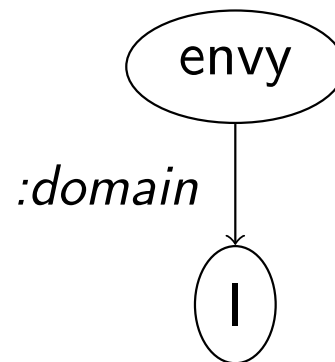
- Categorical
- Conflational
- Structural
- Head swapping
- Thematic

Categorical Divergence

Example: *Tengo envidia de ti* \leftrightarrow *I am jealous of you*

HAVE ENVY OF YOU

Spanish parser:

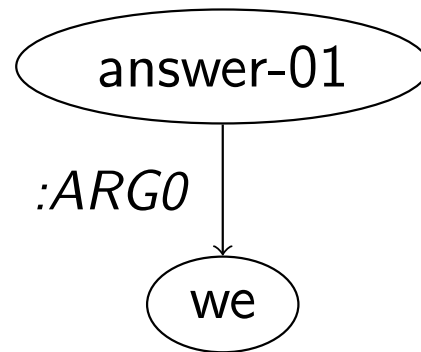


Conflational (manner) Divergence

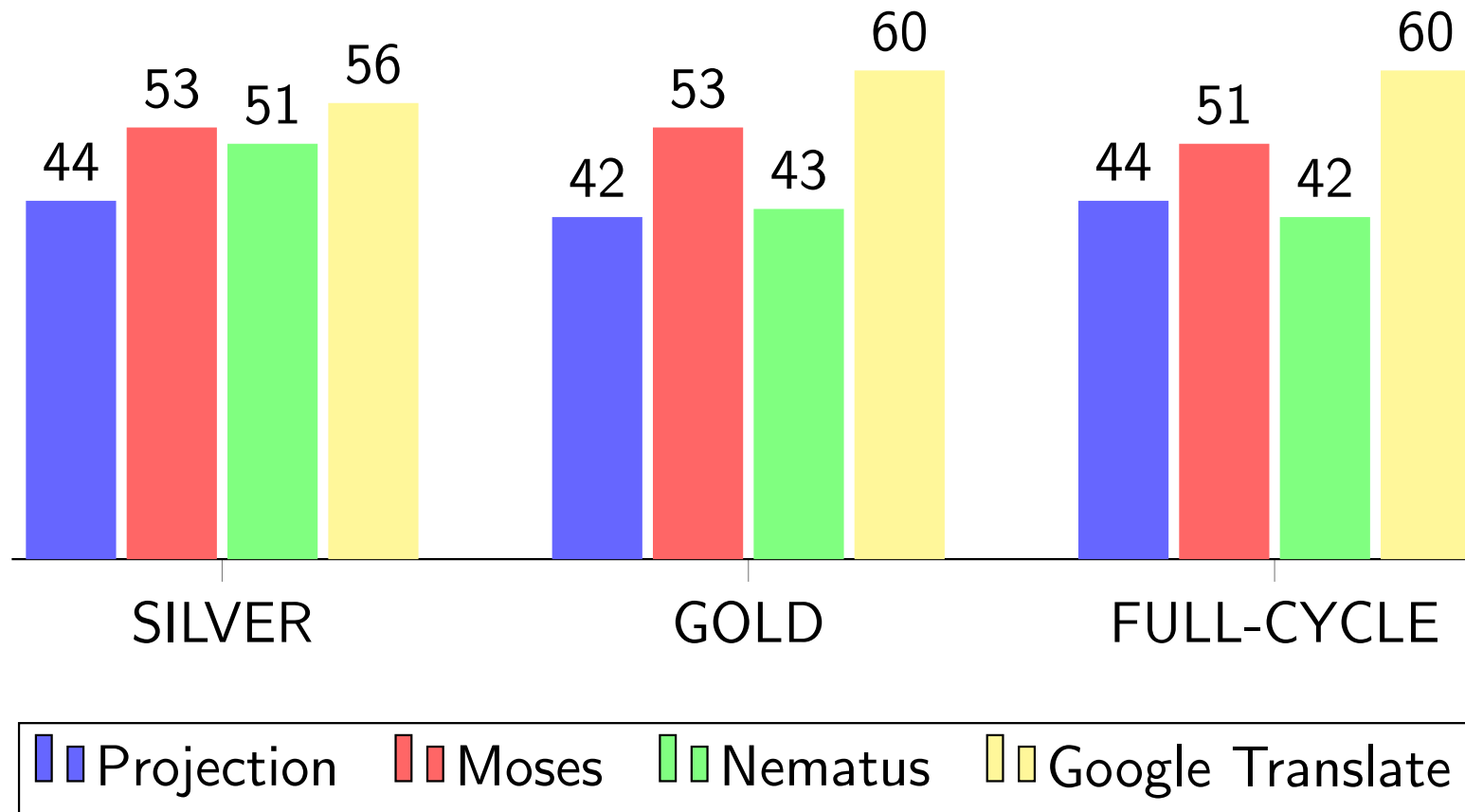
Example: *Noi daremo una risposta* ↔ *We will answer*

WE WILL-GIVE AN ANSWER

Italian parser:



FULL-CYCLE vs SILVER vs GOLD



FULL-CYCLE vs SILVER vs GOLD

Metric	SILVER	FULL-CYCLE
Pearson	0.47	0.95
Pearson -zh	0.87	0.97
Kendall's tau	0.40	0.82
Kendall's tau -zh	0.74	0.83

Conclusions

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Promising evidence but more work necessary
- Can we use FULL-CYCLE to approximate GOLD evaluation?
Yes, FULL-CYCLE correlates better than SILVER