From Phrase Structure to Dependencies, and Back

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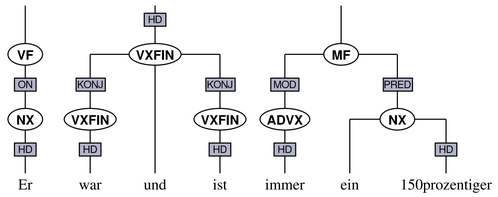
Overview

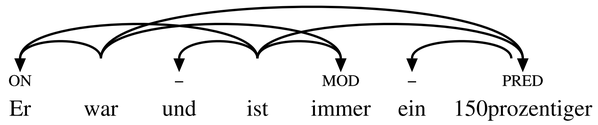
Describing linguistic information in a corpus requires choosing a certain kind of representation. This representation guides annotators when they add linguistic interpretation to a treebank. We highlight cases in the German treebank *Tübingen Treebank of Written German* (*Tübinger Baumbank – Deutsch / Zeitung*: TüBa-D/Z [Telljohann et al., 2003]) where switching the representation of linguistic annotation proved useful not only for obtaining a new target representation, but also for detecting weak spots in the original annotation scheme.

Topological Fields, Phrase Structure, and Dependencies



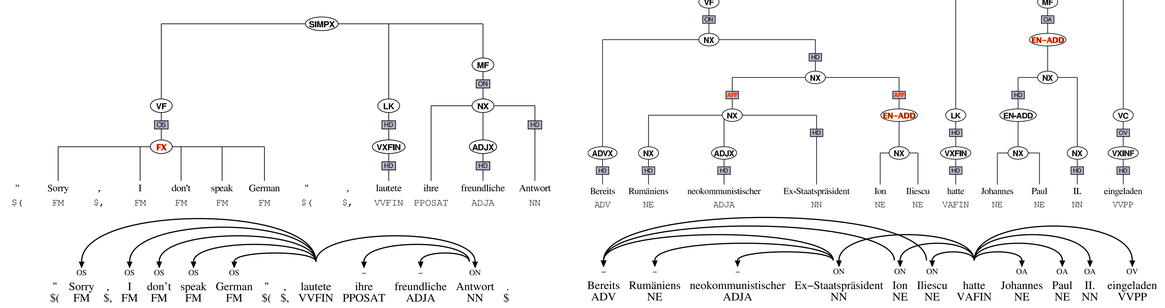
- Topological fields provide a distributional clustering of constituents in a clause
- Phrase structure describes constituents inside of fields
- Grammatical functions relate constituents and verbal parts in clauses

- Heads need to be determined for assigning dependency relations [Lin, 1998]
- Different kinds of phenomena without heads that are difficult to spot used to be encoded similarly in TüBa-D/Z
- Coordinations may result in multi-headed constructions
- Conjunctions are assigned to following (preceding) head



Appositions, Proper Names, and Foreign Material

- Sister appositions share grammatical functions
- No heads can normally be determined in proper names and in foreign material



References

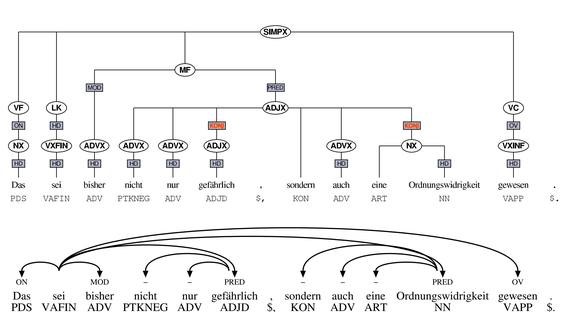
Dekang Lin. A dependency-based method for evaluating broad-coverage parsers. *Natural Language Engineering*, 4(2):97–114, 1998.

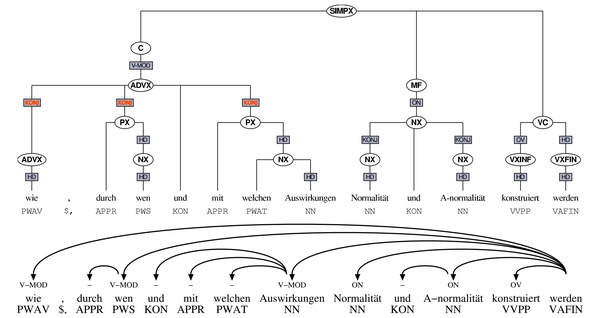
Heike Telljohann, Erhard W. Hinrichs, and Sandra Kübler. *Stylebook for the German Treebank of Written German (TüBa-D/Z)*. Seminar für Sprachwissenschaft, Universität Tübingen, Tübingen, December 2003.

Coordinations

Multipart Conjunctions

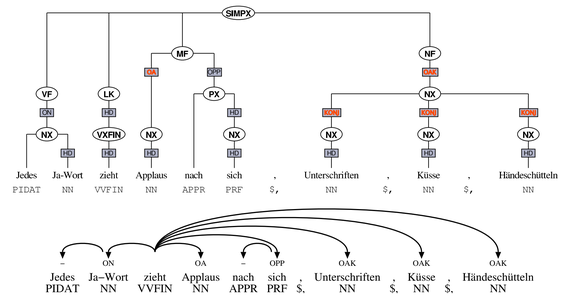
- Conjuncts are often coordinated by more than one word
- Frequently, different types of conjuncts appear in coordinations

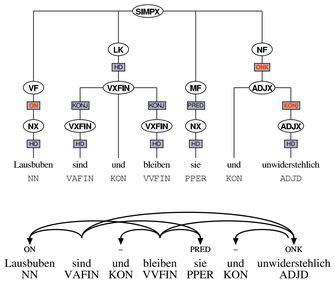




Coordinations Divided by the Verbal Bracket

- Coordinate terms are marked explicitly
- Category identity alone often proves to be too weak





Ellipses

- Ellipses are still encoded as HD-less constituents — co-indexation with elided head will be necessary for retrieving dependencies