The selection of marked exponents in a parallel grammar

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Introduction

- A linguistic object is a collection of semantic, morphosyntactic and phonological features (Chomsky 1965).
- When an item is merged, its semantic and phonological features become available immediately.
- Why assume that the integration of these features is delayed?
- The alternative: a parallel derivational grammar model.

Parallel derivation

- A lexicon consisting of complex objects (contra DM; cf. Jackendoff 2002):
  \[ \lambda x(\text{man}(x)) \rightarrow \left[ N, \text{sg count} \right] \rightarrow /\text{mem}/ \]
- Merge of two elements combines not only the morphosyntactic features, but also the semantic and phonological features.

Direct, downward dependencies

- If each merge introduces a phonological form, selecting a morphological exponent happens at merge.
- The exponent can then only depend on the element it merges with:

(2) \[ W \rightarrow X \rightarrow Y \rightarrow Z \]
- X selects Y, so that the exponent of X (i.e., x) can depend on some (arbitrary) features of Y.
- X does not select Z or W, so that these cannot influence the selection of the exponent of X.

References

- Richards, Norvin. 2010. The selection of marked exponents in a parallel grammar. Working papers of the SFB 732 University of Göttingen, Germany.

Arabic verbal nouns

- Arabic verbal nouns have three morphemes (Kremers 2012; cf. McCarthy & Prince 1995).
- Consider the form (\text{intiqād} ‘criticising’):
  - Root: /\text{mqd}/
  - Stem via marker: \( \sigma, \beta, \gamma \)
  - Nominaliser: /\text{i.a}/
- Arabic has 15 different verb stems: i-xv.
- The verb stem marker is analysed as a verbaliser, i.e., little \( v \)

(3) \[ D \rightarrow \text{NOML} \rightarrow N \rightarrow \text{Subj} \rightarrow v \rightarrow \text{Obj} \]
- The nominaliser /\text{i.a}/ is the default form, but marked forms exist:
  - /\text{i.a}/ for stem \( u \)
  - /\text{o.a}/ for stems \( v \) and \( w \)
- However, NOML selects the stem marker (\( v \)). Therefore, in accordance with (2), the exponent of NOML may depend on features of \( v \).
- There are no “upward” dependencies in Arabic verbal nouns.

Upward dependencies

- However, upward dependencies do exist.
- Stem alternations occur in many languages: N-pattern (and similar) in Romance (Maiden 2004), German ablaut, etc.
- Consider German \text{nehmen} ‘to take’:

(4) \begin{align*}
   & \text{sg} \quad \text{pl} \\
   1. & \text{nehmen} \quad \text{nehmen-en} \\
   2. & \text{nimm-st} \quad \text{nimm-t} \\
   3. & \text{nimm-t} \quad \text{nimm-en} \\
\end{align*}
- Two stem alternations in present tense:

(5) \begin{align*}
   & \text{a. settle: default form (tsg and pl), but also subj, inf} \\
   & \text{b. nimm: 2sg, 3sg} \\
\end{align*}
- Upward dependencies are often irregular, in contrast with downward dependencies.

Borrowing from TAG

- Lexical entries for \text{nehmen} and \text{nimm} (excluding semantics):

(6) \begin{align*}
   & \text{a. } [V, u\text{Acc}] \leftrightarrow /\text{mem}/ \\
   & \text{b. } T, 2\text{sg} \rightarrow /\text{mem}/ \\
\end{align*}
- (6b) is a treelet inspired by (but not entirely equivalent to) treelets in TAG.
- Merger of (6b) with an object targets the node that selects \( N \), i.e., \( V \):

(7) \[ T \rightarrow N, u\text{Case} \rightarrow /\text{mem}/ \]
- The lexical entry for the 2sg ending -\text{st} contains an upward dependency:

(8) \[ T \rightarrow D, 2\text{sg} \rightarrow T, u\text{V} \rightarrow 2\text{sg} \rightarrow /\text{mem}/ \]
- Merger of (8) with (7) unifies the T heads:

(9) \[ \text{N, } u\text{Case} \rightarrow /\text{mem}/ \]

Conclusions

- In a parallel grammar, only direct, downward morphological dependencies can be modelled as singleton heads.
- They can only select morphosyntactic features and are usually productive.
- Upward dependencies must be stored as tree fragments.
- Since they store more structure, they may show irregularities.