Non-Headed Structures and Phrasal Constructions

- Jackendoff (2011) gives the following examples for phrasal constructions:
  
  (1) a. student after student (Jackendoff, 2008)
      \[\text{NP/advP N-P-N}\]
  
  b. The bus rumbled around the corner.
      \[\text{VP V PP} = \text{`go PP in such a way to make a V-ing sound'}\]

- N-P-N construction is a convincing example of a phrasal construction.
  G. Müller (2011) suggested a reduplication analysis, but his proposal has the problems that were pointed out in Jackendoff’s original paper.


Datives Licensed by Phrasal Construction?

Goldberg (1995, Section 6.2): dative is licenced phrasally

(2) ich hab’ ihr jetzt diese Ladung Muffins mit den Herzchen
    I have her now this load Muffins with the little heart
    drauf gebacken und gegeben.¹
    there.on backed and given
    'I now baked and gave her this load of Muffins with the little heart on
top.'

Conclusion: The information about the dative of gebacken has to be present when the verb is coordinated with gegeben.

08.06.2012
(Binary) Merge and Labelling according to Chomsky (2008)

- $\alpha \beta = \{l, \{\alpha, \beta\}\}$, where $l$ is the category of the resulting object.
- Assumption: All constituents are headed

\[\text{Chomsky's Condition:} \quad l \text{ is the category of the resulting object.}\]

- If $\alpha$ is internally merged to $\beta$ forming $\{\alpha, \beta\}$
  then the label of $\beta$ is the label of $\{\alpha, \beta\}$.

- Chomsky: Label is not uniquely determined in all cases.

### Why this Labelling is Insufficient

- Fails on free relatives with complex relative phrases:
  
  (7) I’ll read [whichever book] you give me.  
  
  (8) a. Ihr könnt beginnen, [mit wem] ihr wollt.  

  - you can start with whom you want

  - ‘You can start with whoever you like.’

  - [Wessen Birne] noch halbwegs in der Fassung steckt, pflegt solcherlei Erloschene zu meiden;

  - [Wessen Schuhe] „danach” besprenkelt sind, hat keinen Baum gefunden und war nicht zu einem Bogen in der Lage.

- Ott’s account 2011 fails on so-called non-matching free relatives.

### Labelling: What is Needed

Head/functor-based computation of the Label seems to be needed:

- Categorial Grammar (Ajdukiewicz, 1935; Steedman, 2000).
- HPSG (Pollard and Sag, 1994), and
Specifiers, Complements, and the Remains of \( X \) Theory

- Chomsky tries to get rid of \( X \) Theory.
- Being a specifier or a complement is a derived property:
  - first-merged items are complements
  - later-merged items are specifiers
- Problems with:
  - intransitive verbs
  - coordination of lexical elements
  - coordination in head final languages

Minimalist Grammars

- Stabler’s work is close to Minimalist approaches but much more precise (Stabler, 2010, p. 397, 399, 400).
- Stabler: results of the two Merge operations are not sets but pairs.
  - head marked by a pointer (‘\(<\)’ or ‘\(>\)’):

\[
(9) \quad \begin{array}{c}
  > \\
  3 \quad < \\
  1 \quad 2
\end{array}
\]

1 is the head, 2 is the complement and 3 the specifier.
Daughters are ordered: 3 is serialized before 1 and 1 before 2.

External Merge According to Stabler (2010, p. 402)

(10) \[\text{em}(t_1[=f], t_2[f]) = \begin{cases} 
  < \\
  t_1 \quad t_2 \quad \text{if } t_1 \text{ has exactly 1 node} \\
  > \\
  t_2 \quad t_1 \quad \text{otherwise}
\end{cases}\]

\( =f \) is a selection feature and \( f \) the corresponding category.
When \( t_1[=f] \) and \( t_2[f] \) are combined, the result is a tree in which the selection feature of \( t_1 \) and the respective category feature of \( t_2 \) are deleted.

Internal Merge

(11) \[\text{im}(t_1[+f]) = > \]

\[
\begin{array}{c}
  \text{if (SMC) exactly one head in } t_1[+f] \text{ has} \\
  -f \text{ as its first feature.}
\end{array}
\]

\( t_1 \) is a tree with a subtree \( t_2 \) which has the feature \( f \) with the value ‘\(-\)’.
This subtree is deleted \((t_2[=f] \mapsto \epsilon)\) and a copy of the deleted subtree without the \(-f\) feature is positioned in specifier position.
The element in specifier position has to be a maximal projection.
This requirement is visualized by the raised ‘\(>\)’.
Problems

- While this proposal is much more precise than Chomsky’s, it suffers from the same problems (except for the labelling problem).
- But there is an easy way out, also suggested by Stabler: Directional Minimalist Grammars.

Directional Minimalist Grammars

- Stabler (2011) suggests to mark the position of an argument relative to its head together with the selection feature and gives the following redefinition of External Merge:

\[
em(t_1[α], t_2[α]) = \begin{cases} 
< & \text{if } α = x \\
> & \text{if } α = x
\end{cases}
\]

The position of the equal sign specifies on which side of the head an argument has to be realized.

The Good Thing about Directional Minimalist Grammars

- DMGs do not have any of the problems that Chomsky’s approach has.
- External Merge = Forward and Backward Application in Categorial Grammar!

The Head Feature Principle and Labelling

- ‘>’ and ‘<’ corresponds directly to the HPSG representation of heads.
- syntactic information is contained under SYNSEM|LOC|CAT.
- head features are grouped together under HEAD.
- Head Feature Principle:

\[
\text{headed-phrase} \Rightarrow [\text{SYNSEM}|\text{LOC}|\text{CAT}|\text{HEAD}][\text{HEAD-DTR}|\text{SYNSEM}|\text{LOC}|\text{CAT}|\text{HEAD}]
\]
Notational Issues: HPSG vs. MG

Ginzburg and Sag (2000, p. 30)

\[
\begin{align*}
\text{HEAD-DTR} & \quad \text{DTRS} \\
\begin{pmatrix} \text{H} \alpha, \beta \end{pmatrix} & \quad \begin{pmatrix} \alpha \beta \end{pmatrix}
\end{align*}
\]

Stabler

\[
\begin{align*}
\text{HEAD-DTR} & \quad \text{DTRS} \\
\begin{pmatrix} \text{H} \alpha, \beta \end{pmatrix} & \quad \begin{pmatrix} \alpha \beta \end{pmatrix}
\end{align*}
\]
The Future

- We know that we need both lexical and phrasal approaches.
- The question is what we do how.
- This is an empirical issue (given some basic assumptions . . ).
- Let’s work out large scale grammar fragments and publish open access books about them with Language Science Press!

http://langsci-press.org/

Conclusion

Ivan participated in the development of

- GPSG
- HPSG
- CxG
- Minimalism!

Chomsky, 2013: On Labeling, two Lexical Items

- Problem of Chomsky, 2008: combination of two lexical items
- Chomsky’s solution in 2013:
  - All lexical elements have to be projected.
  - Roots are combined with a functional head and roots do not count for label determination (by stipulation).
- Consequence:

  (15) a. N′ → N \hspace{1cm} (\chi Theory)
  b. N → N-func root \hspace{1cm} (Chomsky, 2013)

We are not better off than \chi Theory and one of the goals of Minimalism is to provide simpler mechanisms/structures than GB.

Chomsky, 2013: On Labeling, two Phrasal Items

- Missing in Chomsky, 2008: combination of two phrasal items.
- When two phrases XP and YP are combined:
  - Either one has to move away and the other provides the label or
  - the label is computed from features that XP and YP share.
- Details are unclear . . .
Coordination

- Chomsky’s suggestion:
  
  (16) a. $[\alpha \text{ Conj } [\beta Z W]]$
  
  b. $[\gamma Z [\alpha \text{ Conj } [\beta Z W]]$

- Since $Z$ in $\beta$ is only a copy, it does not count for labeling and $\beta$ can get the label of $W$.
- By stipulation Conj cannot be a label, hence the label of $\alpha$ should be the label of $W$.
- We have to choose between $Z$ and $W$ to determine the label of $\gamma$.
- Chomsky claims, the label is $Z$, but either $Z$ or $W$ would have to move on to make $\gamma$ labelable. Chomsky mentions this in footnote 40, but does not provide a solution.

Coordination further Problems

- According to Chomsky the label of $Z \text{ Conj } W$ is $Z$.
- Borsley (p.c. 2013): coordinations of two singular noun phrases with and. Result of the coordination is a plural NP and not a singular one like the first conjunct.
- No explanation for ill-formedness of (17b):
  
  (17) a. both Kim and Lee

  b. *both Kim or Lee

  The information about the conjunction has to be part of the representation for or Lee in order to be able to contrast it with and Lee.

Specifiers

Chomsky, Footnote 27:

There is a large and instructive literature on problems with Specifiers, but if the reasoning here is correct, they do not exist and the problems are unformulable.

Differences

- In HPSG “movement” is not feature-driven. Feature-driven movement cannot deal with so-called altruistic movements (Fanselow, 2003).
- No restriction regarding the completeness of the filler daughter. Whether the filler daughter has to be a maximal projection (English) or not (German) follows from restrictions that are enforced locally when the trace is combined with its head.
- Analysis of (18) without remnant movement possible in HPSG:

  (18) Gelesen, hat, das Buch keiner read has the book nobody
Remnant Movement

- Stabler has to assume a remnant movement analysis.
- G. Müller, 1998:
  (19) a. Hat [keiner [VP das Buch gelesen]].
  b. Hat [das Buch], [keiner [VP gelesen]].
  c. [VP gelesen], hat [das Buch], [keiner].

Haider (1993); De Kuthy and Meurers (2001); Fanselow (2002):
such remnant movement analyses are problematic.

- The only phenomenon that Fanselow identified as requiring a remnant movement analysis are multiple frontings (Müller, 2003).

- Analysis in Müller, 2005a,b, In Preparation does not need remnant movement, but uses argument composition (Geach, 1970; Hinrichs and Nakazawa, 1994).
- Chomsky (2007, p. 20) uses argument composition in a different area of syntax and hence both tools are used in recent Minimalist proposals.
- A theory that works with fewer assumptions has to be preferred over others.

Further Differences


- Not all information is shared between filler and gap.
- avoids movement paradoxes.
- No transformations: There may be several gaps related to one filler.
- There may be resumptive pronouns.

References


http://www.uni-leipzig.de/~muellerg/
Müller, Stefan. 2005b. Zur Analyse der scheinbar mehrfachen


Stabler, Edward P. 2001. Minimalist Grammars and 

Pullum, Geoffrey K. and Scholz, Barbara C. 2001. On the 


Müller, Stefan. 2006. Phrasal or Lexical Constructions? 

Müller, Stefan. 2007. Phrasal or Lexical Constructions: Some 

Müller, Stefan. 2013. 

Unifying Everything: Simpler Syntax, Construction Grammar, Minimalism and HPSG

References

http://hpsg.fu-berlin.de/~stefan/Pub/unifying-everything.html

http://hpsg.fu-berlin.de/~stefan/Pub/tfreddel.html, 05.05.2013.

Müller, Stefan. 2003. Mehrfache Vorfeldbesetzung. Deutsche


Müller, Stefan. 2005b. Zur Analyse der scheinbar mehrfachen


References
