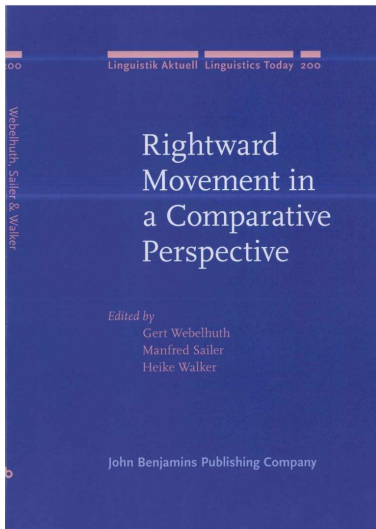# Barking up the Wrong Tree

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April 30, 2013

Extraposition in English can have semantic effects

1. Principle C: Rochemont & Culicover (1997)
2. Scope: Fox & Nissenbaum (1999)
3. Negative polarity items: Guéron (1980)

(1) a. * M. thinks that [$_{NP}$ the extraposition transformation which has **the slightest effect** on LF] hasn't been found yet.

   b. M. thinks that [$_{NP}$ the extraposition transformation __] hasn't been found yet which has **the slightest effect** on LF.

Extraposition in German

Complement clauses:

(2) Peter hat eine Frau   __ gebeten, [_ARG das Buch zu lesen].
     Peter has a   woman   asked   the book to read

Relative clauses:

(3) Peter hat [eine Frau   __] getroffen, [_RC die er nicht kannte].
     Peter has a   woman   met   who he not knew

Comparative clauses:

(4) Peter hat [mehr __ Frauen] gegrüßt, [_COMPC als ich].
     Peter has more   women greeted   than I

Sharply diverging analyses, even within the same framework

Author	Mechanism	Attachment
Haider (2013)	base generation	low
Büring & Hartmann (1997)	A-bar movement	high
Bayer (1997)	A-movement	high
Inaba (2007)	ARG: base generation	low
	RC: PF-movement	low

Additional mechanisms:

- Haider: mysterious head, pseudocomplements, θ-marking without grammatical relation: $[_{\mathrm{VP}} \ldots V [\ldots h^0 \ldots]]$
- Bühring & Hartmann: reconstruction
- Bayer: trace deletion
- Inaba: PF-movement, downward movement, movement that breaks up constituents.

Questions and goal of the talk

Questions:

- Why has it been so difficult to agree on the mechanism that licenses EX to the right of the verb in the tree? (Base generation vs. A-mvt. vs. A-bar mvt. vs. PF-mvt.)
- Why has it been so difficult to agree on the hight of attachment of EX in the tree? (High vs. low)
- Why do all the approaches require "repair" mechanisms of one sort or another? (mysterious heads, trace deletion, reconstruction)
- Why does EX violate constraints on (leftward) movement?

Goal of the talk: to show that all of these mysteries and problems immediately disappear under an HPSG analysis that had already been published before the works reviewed above.

Properties of German EX that need to be captured

1. EX behaves differently from (leftward) movement.
2. EX can be optional or obligatory.
3. EX is possible not only within VP, but also within NP and PP.
4. EX is possible out of NP and PP.
5. More than one constituent can be EX'ed and their order may be flexible
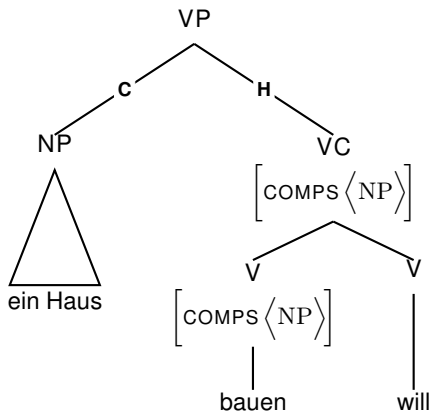6. EX does not appear to affect scope or binding.

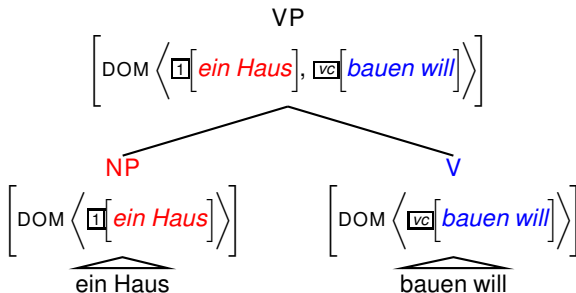# German EX as pure linearization

Reape (1994)
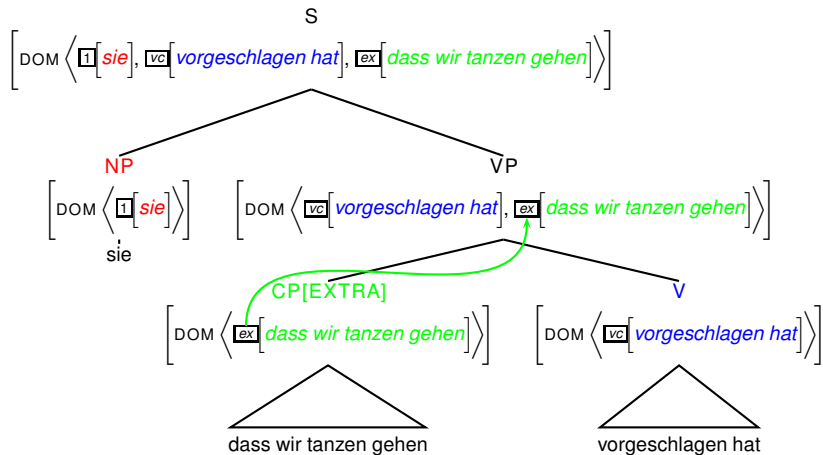Kathol (2001)
Kathol & Pollard (1995)

Phrase Structure and Grammatical Relations

Topology and Linear Form

Topology and Linear Form

1a. EX behaves differently from (leftward) movement

Leftward movement is more constrained than EX:

Leftward movement vs. EX from adjuncts (Haider):

(5) a.   Er hat [$_\text{ADJUNCT}$ öfter   als   ich] gewonnen.
          he has   more frequently than me won

    'He won more frequently than I did'

<div align="center">FILLER-GAP</div>

   b. * [Als ich]$_k$ hat er [$_\text{ADJUNCT}$ öfter   ___$_k$] gewonnen.
        than me   has he   more frequently   won

<div align="center">LINEARIZATION</div>

   c.   Er hat [$_\text{ADJUNCT}$ öfter   ___$_k$] gewonnen, [als ich]$_k$.
        he has   more frequently   won   than I

2. EX can be optional or obligatory

The Verb *stimmen ("be true")* takes an optional expletive subject *es ("it")*.

Without *es*: EX is optional:

(6) a. ? weil [$_{ARG}$ dass Ellen kommt] stimmt.
       bec.   that   Ellen comes is true

   b. ? weil ___$_k$ stimmt [$_{ARG}$ dass Ellen kommt]$_k$.
        bec.   is true   that Ellen comes

     'because it is true that Ellen '

$$\textit{stimmt:} \left[\text{ARG-ST} \quad \left\langle \begin{bmatrix} \text{POS} & \text{CP} \\ \text{EXTRA} & \textit{bool} \end{bmatrix} \right\rangle \right]$$

2. EX can be optional or obligatory

The Verb *stimmen ("be true")* takes an optional expletive subject *es ("it")*.

When *es* is present, then EX is obligatory:

(7) a. * weil es [$_{ARG}$ dass Ellen kommt] stimmt.
         bec. it   that Ellen comes is true

     b. weil es ___$_k$ stimmt [$_{ARG}$ dass Ellen kommt]$_k$.
         bec. it   is true   that Ellen comes

       'because it is true that Ellen '

stimmt: $\begin{bmatrix} \text{ARG-ST} & \left\langle \begin{bmatrix} \text{POS} & \text{NP} \\ \text{FORM} & \textbf{\textit{es}} \end{bmatrix}, \begin{bmatrix} \text{POS} & \text{CP} \\ \text{EXTRA} & + \end{bmatrix} \right\rangle \end{bmatrix}$

3. EX is possible not only within VP, but also within NP and PP

The topological structure of NPs:
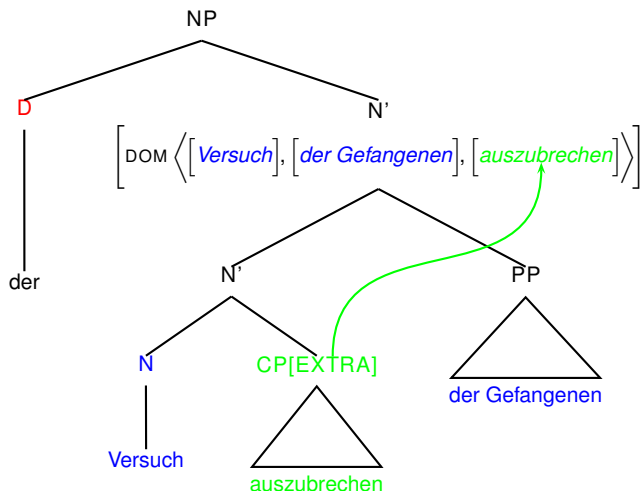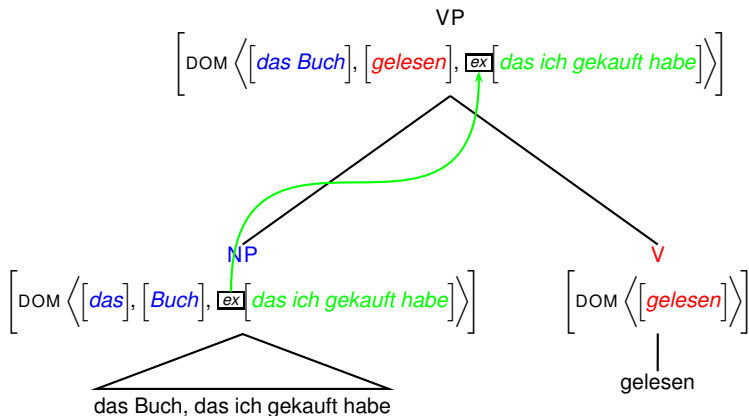
4. EX is possible out of NP and PP

(8)   Ich habe [$_{NP}$ das Buch ___$_k$] gelesen, [$_{RC}$ das   ich gekauft habe].
      I   have   the book   read   which I   bought have

      'I read the book that I bought.'

4. EX is possible out of NP and PP

Kathol & Pollard (1995): "partial compaction"

1b. EX behaves differently from (leftward) movement

EX is more constrained than leftward movement:

Leftward movement can leave the clause:

(9) Wen$_k$ glaubst du, [$_{CP}$ dass ich gerade ___$_k$ getroffen habe].
Who believe you   that I just   met   have

EX cannot leave the clause (Right Roof Constraint):

(10) [$_{CP}$ Dass ich ___$_k$ wusste [$_{CP}$ dass Petra kommt]$_k$] ist irrelevant.
that I   knew   that Petra comes is irrelevant

'It is irrelevant that I knew that Petra would come'

(11) * [$_{CP}$ Dass ich ___$_k$ wusste] ist irrelevant [$_{CP}$ dass Petra kommt]$_k$.
that I   knew is irrelevant   that Petra comes

'It is irrelevant that I knew that Petra would come'

The Right Roof Constraint

The Right Roof Constraint:

Dependent clauses contribute a single domain element to their mother's domain.

(12)   [$_{CP-A}$ [$_{CP-B}$ Dass ich $\rule{1cm}{0.4pt}$$_k$ wusste [$_{CP}$ dass Petra kommt]$_k$] ist irrelevant].
         that   I   knew   that Petra comes   is irrelevant

     'It is irrelevant that I knew that Petra would come'

(13) * [$_{CP-A}$ [$_{CP-B}$ Dass ich $\rule{1cm}{0.4pt}$$_k$ wusste] ist irrelevant [$_{CP}$ dass Petra kommt]$_k$].
         that   I   knew   is irrelevant   that Petra comes

     'It is irrelevant that I knew that Petra would come'

5. More than one constituent can be EX'ed and their order may be flexible

Relative and argument clauses [Wiltschko (1993-94, p. 16)]:

(14) Peter hat eine Frau   gebeten, [_ARG das Buch zu lesen], [_RC die   er
      Peter has a   woman asked   the book to read   who he
      nicht kannte].
      not   knew

(15) Peter hat eine Frau   gebeten, [_RC die   er gar nicht kannte] [_ARG das
      Peter has a   woman asked   who he   not knew   the
      Buch zu lesen].
      book to read

5. More than one constituent can be EX'ed and their order may be flexible
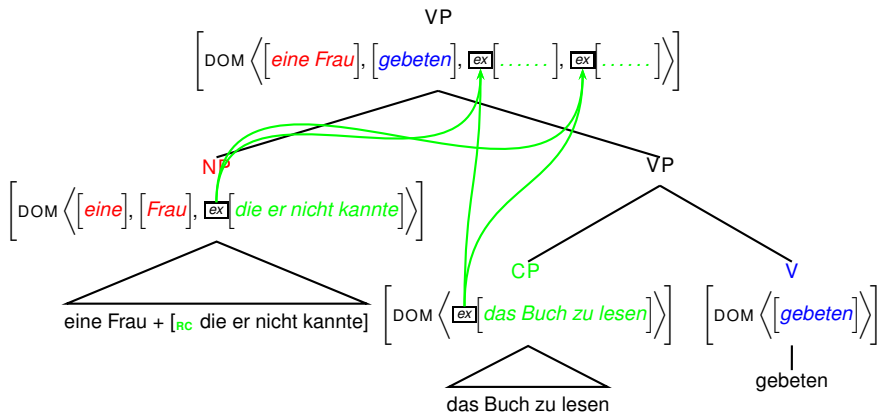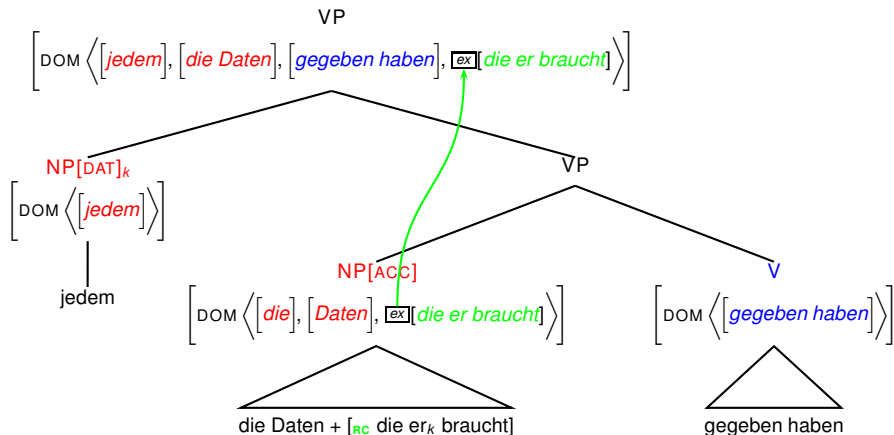
6. EX does not appear to affect scope or binding

Variable binding:

(16) weil   wir jedem$_k$ [$_{NP}$ die Daten t$_j$] gegeben haben, [$_{CP}$ die er$_k$
      because we everybody   the data   given   have   that he
      braucht],
      needs

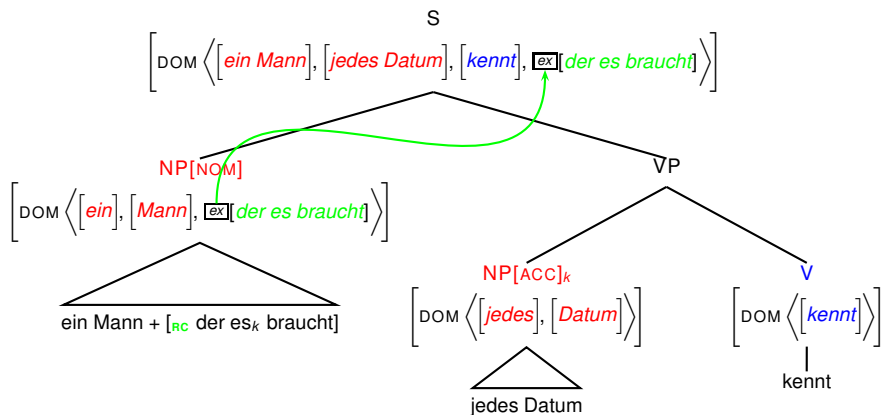   'because we gave everybody the data that he needs'

(17) * weil   [ein Mann t$_j$] jedes Datum$_k$ kennt [$_{CP}$ [der es$_k$ braucht]$_j$
      because a   man   every data   knows   who it   needs

      'because a man who needs it knows every piece of data'

B&H (1997:16)

7. EX does not appear to affect scope or binding

7. EX does not appear to affect scope or binding

Important contrast: gap filling **does** affect binding

(18)   * Wahrscheinlich möchte **sie**$_k$ __ um   die Welt   reisen, bevor
       probably   wants   she   around the world travel   before
       Johanna$_k$ 18 Jahre alt wird.
       Johanna   18 years old becomes

   'Probably, she wants to travel around the world before Johanna turns 18 years old.'

(19)   Bevor   **Johanna**$_k$ 18 Jahre alt wird,   möchte **sie**$_k$ __ um   die
       before Johanna   18 years old becomes wants   she   around the
       Welt   reisen.
       world travel

   'Before she turns 18 years old, she wants to travel around the world.'

Evaluation

Empirical Evaluation

Properties of German EX that need to be captured:

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Conceptual Evaluation

Comparison of the mechanisms used by the different theories:

The linear theory:

- Linear categories
- lists and simple list operations
- local trees.

The phrase structure theories:

- mystery heads
- pseudocomplements
- trace deletion
- reconstruction
- downward movement
- movement that breaks up constituents.

Returning to the questions from the beginning

Questions:

- Why has it been so difficult to agree on the mechanism that licenses EX to the right of the verb in the tree? (Base generation vs. A-mvt. vs. A-bar mvt. vs. PF-mvt.)
- Why has it been so difficult to agree on the hight of attachment of EX in the tree? (High vs. low)
- Why do all the approaches require "repair" mechanisms of one sort or another? (mysterious heads, trace deletion, reconstruction)
- Why does EX violate constraints on (leftward) movement?

Answer: because German EX is not a tree-building operation, but rather an operation of pure linearization à la Kathol & Pollard (1995).

Morals of story:

1. Using trees as the only data structure in syntax makes you bark up the wrong tree when trying to analyze German EX.
2. Ivan and Carl have given us a framework with more flexible data structures than just trees and Carl and Andreas Kathol have formulated a practically perfect theory of German EX within that framework!
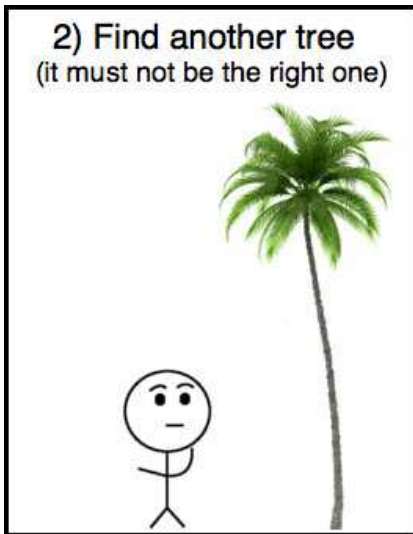
So.

To my many Minimalist friends
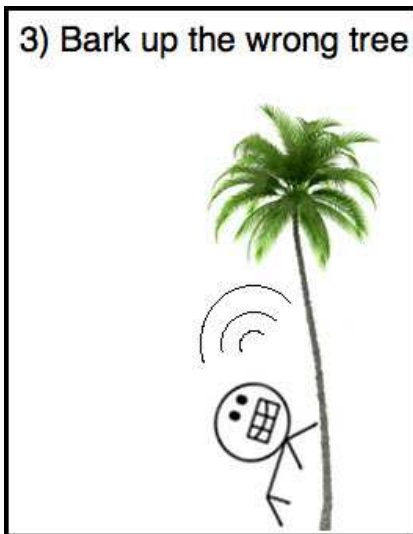out there.
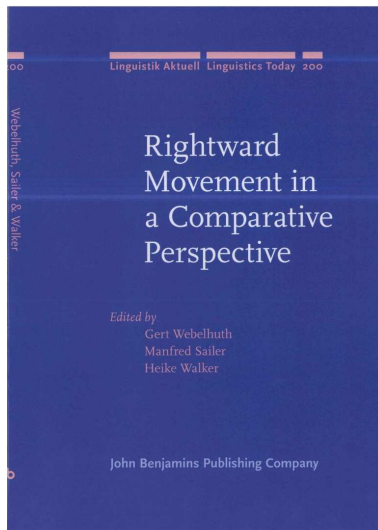
Here is, how **not** to do it:
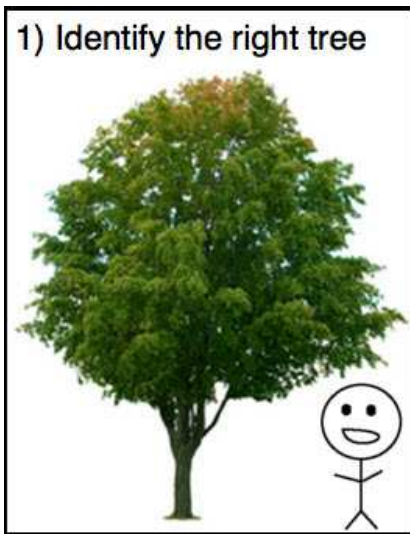
If you don't follow that advice,

then the following may happen to you:

joe-ks.com

"Damn, I shoulda listened to Ivan and Carl!"

Back to the book on rightward movement.

The book contains a dedication

With gratitude and admiration, we would like to dedicate this book to Ivan Sag, our teacher, our role model, and friend.

Gert Webelhuth, Manfred Sailer & Heike Walker

Thank you!