Against lexical decomposition in syntax

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joint work with Reinhard Blutner

Outline of Talk

1. The puzzles of German *wieder* ('again')

2. Arguments against a decomposition analysis

3. Bidirectional OT

4. Towards an explanation

# The puzzles of *wieder* ('again')

First puzzle

- Modification of a transformational predicate with *again* results in a systematic ambiguity between a **repetitive** (cf. (1b)) and a **restitutive** (cf. (1c)) reading.

  (1) a. John opened the window again.
      b. John again performed the action of opening the window.
      c. John brought it about that again the window is open.

Basic syntactic assumptions

- SOV

- Adverbs attach to VP

- unmarked intonation according to CSR

- objects may be scrambled out of VP
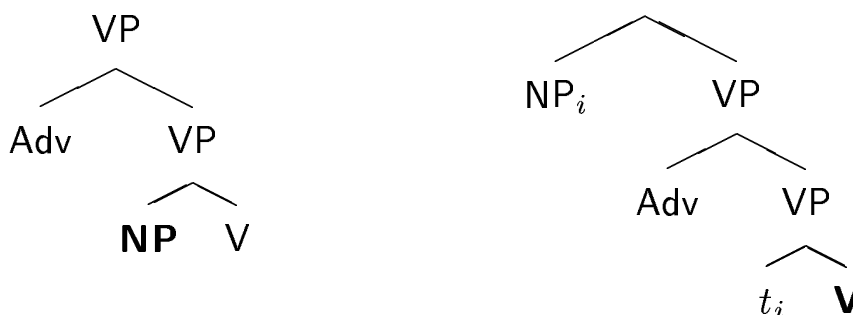
Second puzzle

- Disambiguation by word order and intonation in German (Fabricius-Hansen 1983)

- descriptive generalizations:

  1. object *in situ* $\Rightarrow$ repetitive reading

  2. unmarked intonation $\Rightarrow$ restitutive reading

 3. main accent on adverb $\Rightarrow$ repetitive reading

(2) a. ?(weil) John wieder das **Fenster** öffnete
    JOHN AGAIN THE **window** OPENED

 b. (weil) John **wieder** das Fenster öffnete
    JOHN **again** THE WINDOW OPENED (repetitive)

 c. (weil) John das Fenster wieder **öffnete**
    JOHN THE WINDOW AGAIN **opened** (restitutive)

 d. (weil) John das Fenster **wieder** öffnete
    JOHN THE WINDOW **again** OPENED (repetitive)
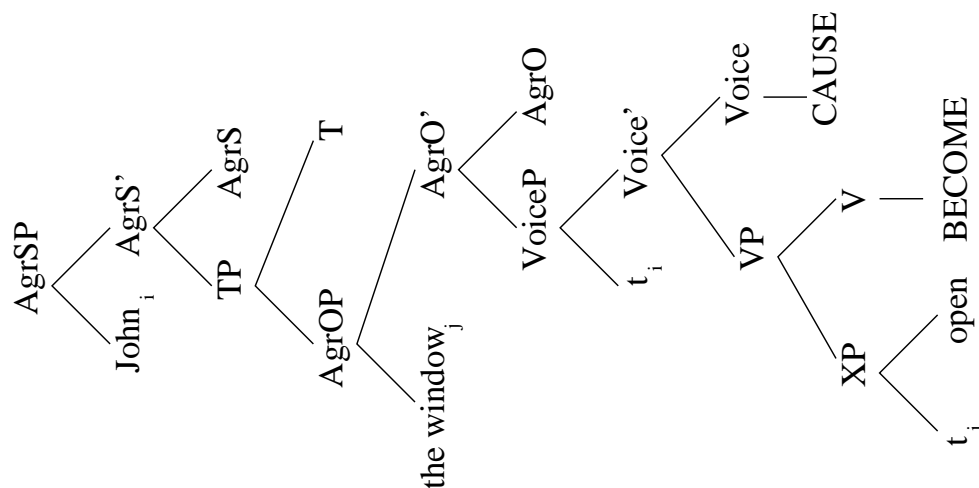
Decomposition analyses: Scope ambiguity
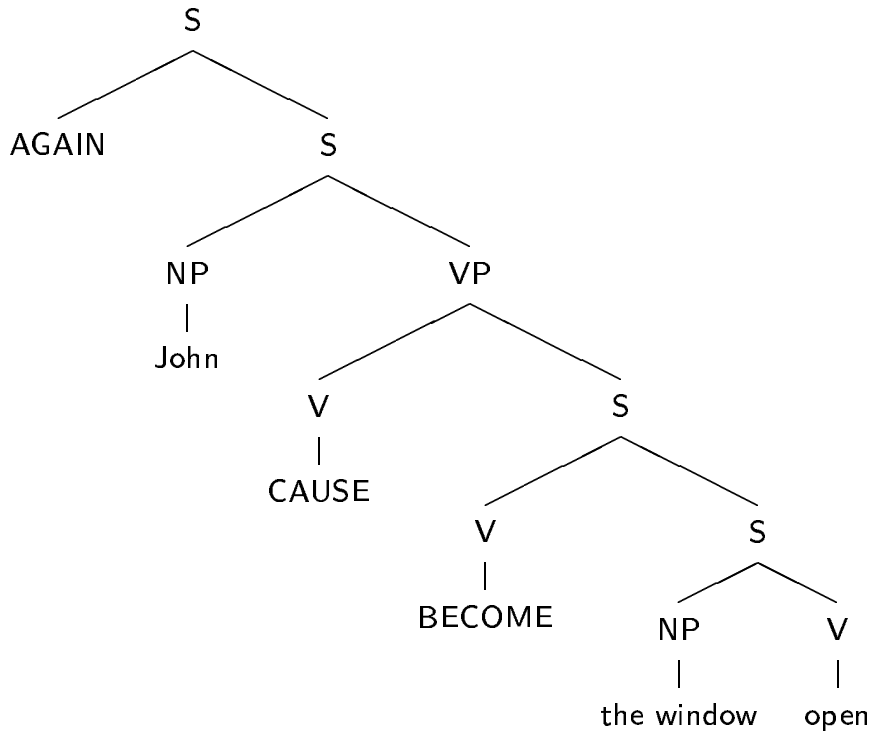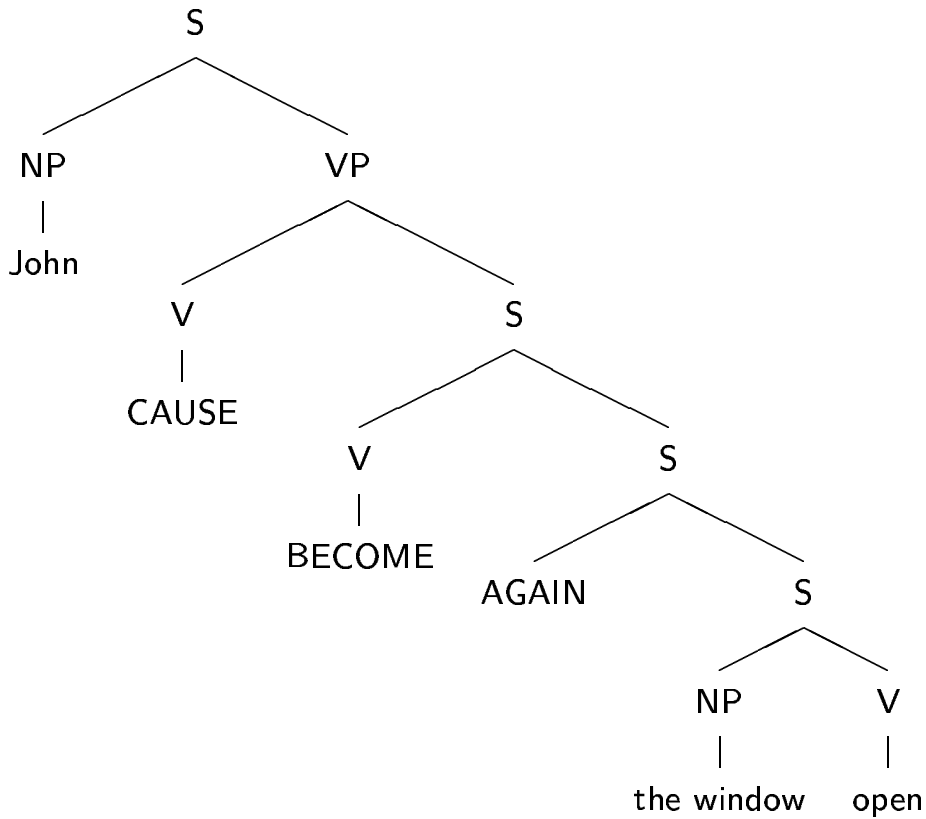
von Stechow 1996:

- Scope is mirrored in word order

Does Decomposition do the job?

- If the ambiguity is due to different scopes of *again*, we expect scopal interaction with quantifiers.

- At a first glance, this seems to be born out:

(3) a. John opened a window again

    b. $CAUSE(p, BECOME(again(\exists x(window(x) \land open(x)))))$

    c. $again(\exists x(window(x) \land CAUSE(p, BECOME(open(x)))))$

    d. $\exists x(window(x) \land CAUSE(p, BECOME(again(open(x)))))$

    e. $\exists x(window(x) \land again(CAUSE(p, BECOME(open(x)))))$

- Things become more involved with "control" accomplishments, i.e. accomplishments where agent and theme are necessarily identical

(4) a. Some delawares settled in New Jersey again
   b. $\exists x(\text{DELAWARE}(x) \wedge \text{CAUSE}(x, \text{BECOME}(\text{LIVE\_IN}(x, \text{NJ}))))$

$+ \text{AGAIN}$

- Critical reading of (4) only presupposes that some delawares used to live in NJ — not necessarily those that are about to settle there now.

Assertion

$$\exists x(\text{DELAWARE}(x) \wedge \text{CAUSE}(x, \text{BECOME}(\text{LIVE\_IN}(x, \text{NJ}))))(i))$$

Presupposition

$$\exists j < i \exists x(\text{DELAWARE}(x) \wedge \text{LIVE\_IN}(x, \text{NJ})(j))$$

- $\exists x \text{DELAWARE}(x)$ occurs twice $\Rightarrow$

  AGAIN >> SUBJ

- Since *some delawares* binds the subject argument place of CAUSE:

  SUBJ >> CAUSE

- Since we are dealing with a restitutive reading:

  CAUSE >> AGAIN

  Scope Paradox!

1. *again* always takes scope over BECOME and CAUSE

2. the meaning of restitutive *again* contains the inverse of BECOME, call it RESULT

Repetitive again:

(5) $\lambda P, i.P(i) : \exists j < i(P(j))$

Restitutive again:

(6) $\lambda P, i.P(i) : \exists j < i(\text{RESULT}(P)(j))$

- critical reading of (4) comes out as

(7) $\lambda i.\exists x(\text{DELAWARE}(x) \land \text{SETTLE\_IN}(i, x, \text{NJ}))$:
$\exists j <$
$i(\text{RESULT}(\lambda i.\exists x(\text{DELAWARE}(x) \land \text{SETTLE\_IN}(i, x, \text{NJ})))(j))$
$=$
$\lambda i.\exists x(\text{DELAWARE}(x) \land \text{SETTLE\_IN}(i, x, \text{NJ}))$:
$\exists j < i\exists x(\text{DELAWARE}(x) \land \text{LIVE\_IN}(j, x, \text{NJ}))$

Deblocking effects

(8) Maria assumed the name of her husband again

- repetitive/restitutive ambiguity

- strict/sloppy ambiguity (from von Stechow 1996): presupposition refers to current or past husband

- Now object scrambling makes a difference in meaning

(9) a. (weil) Maria wieder den Namen ihres **Mannes** annahm
M. AGAIN THE NAME OF HER **husband** ASSUMED (sloppy, rest.)

b. (weil) Maria **wieder** den Namen ihres Mannes annahm
M. **again** THE NAME OF HER HUSBAND ASSUMED (sloppy, rep.)

c. (weil) Maria den Namen ihres Mannes wieder **annahm**
M. THE NAME OF HER HUSBAND AGAIN **assumed** (strict, rest.)

d. (weil) Maria den Namen ihres Mannes **wieder** annahm
M. THE NAME OF HER HUSBAND **again** ASSUMED (strict, rep.)

Generalization:

- Scrambling is preferred **unless**
  - ○ it makes a difference in meaning
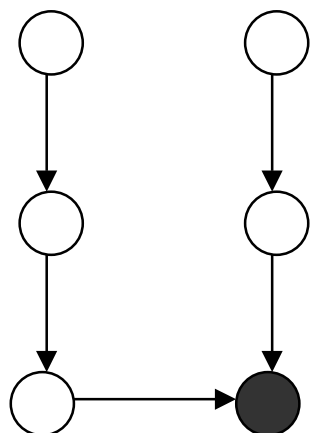 - ○ it tears apart a presupposed constituent

Optimality Theory: The basic picture

- Set of ranked and violable constraints induces a (partial) well-founded ordering of the candidate set

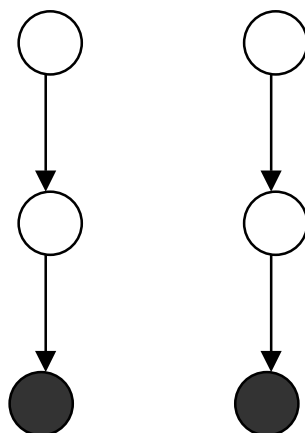- A candidate is grammatical iff it is minimal in this ordering

Blocking and Deblocking in standard OT

Blocking   Deblocking

Application to syntax/semantics interface

- In phonology/morphology, OT takes the speaker perspective

- applied to syntax/semantics, this means:

  1. Candidate set **GEN** is given by compositional (underspecified) semantics

  2. A form/meaning pair may be blocked by a better form for the same meaning, but not the other way round

Bidirectional OT

- Blocking/deblocking on the syntactic side well-attested, cf.

(10) a. We had chicken for dinner
   b. *We had pig for dinner
   c. We had pork for dinner

- However, (de-)blocking on the semantic side as well:

(11) a. I am on the street $\Rightarrow$ *"I" = speaker*
   b. I am parked around the corner $\Rightarrow$ *"I" = speaker's car*

☞ *Both speaker perspective and hearer perspective are necessary*

Reconciling the perspectives

Definition 1 (Optimality)

$\langle \pi, \lambda \rangle$ is optimal iff

1. $\langle \pi, \lambda \rangle \in \mathbf{GEN}$,

2. there is no optimal $\langle \pi', \lambda \rangle < \langle \pi, \lambda \rangle$, and

3. there is no optimal $\langle \pi, \lambda' \rangle < \langle \pi, \lambda \rangle$.

Theorem 1 *If "$<$" is transitive and well-founded, then there is a unique optimality relation.*

- This notion of bidirectional optimality provably coincides with Blutner's 1998; 1999 notion

Algorithm

$OPT = \emptyset$;
$BLCKD = \emptyset$;

while $(OPT \cup BLCKD \neq \mathbf{GEN})$ {
$\quad OPT = OPT \cup \{x \in \mathbf{GEN} - BLCKD | \forall y < x : y \in OPT \cup BLCKD\}$;
$\quad BLCKD = BLCKD \cup \{\langle \pi, \lambda \rangle \in \mathbf{GEN} - OPT|$
$\quad\quad\quad\quad \langle \pi', \lambda \rangle \in OPT \vee \langle \pi, \lambda' \rangle \in OPT\}$;
$\quad\quad$ }

return (OPT);

Iconicity
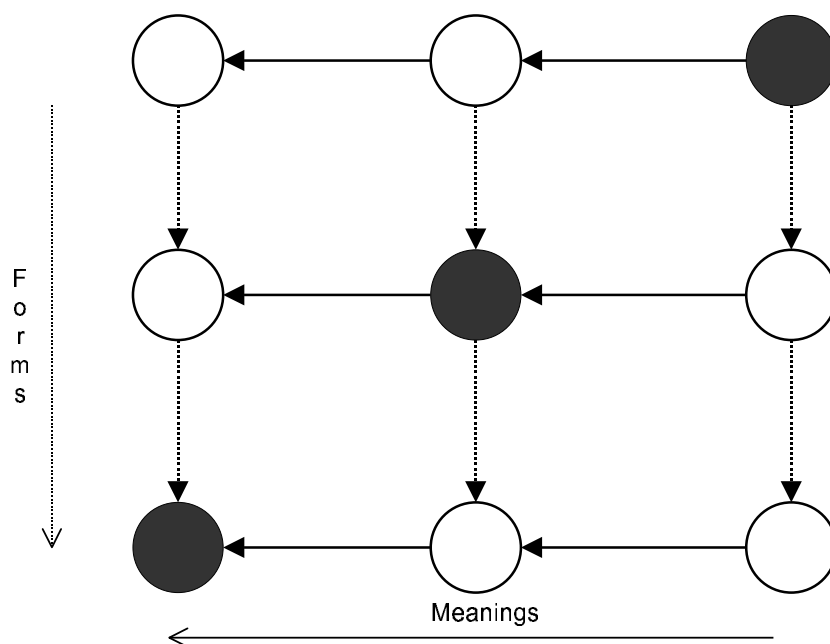
Towards an explanation

- Four constraints play a role:

  1. **ACC**: Avoid Accommodation! (van der Sandt 1992)

  2. **SCR**: Definites scramble! (folk.)

  3. **DOAP**: Do not overlook anaphoric possibilities! (Williams 1997)

  4. **GIVEN**: Deaccented material must be given! (Schwarzschild 1999)

- ***ACC** favors restitutive readings since their presupposition is weaker.

- With repetitive interpretation, **DOAP** favors accent on *wieder*

- With restitutive interpretation, **GIVEN** favors accent according to CSR

- With restitutive reading, **SCR** favors object scrambling

- With repetitive reading, **SCR** favors and **DOAP** disfavors scrambling ⇒ no preference

- If strict/sloppy-ambiguity obtains, no competition between object *in situ* and scrambled

(2) (9)
repetitive restitutive repetitive restitutive

a.
b.
c.
d.

Summary

- Structural/decompositional analysis of *wieder* not viable because:
  - Scope paradox
  - Deblocking effects
- Instead:
  - Lexical ambiguity (maybe underspecification)
  - OT-based account of disambiguation effects

References

Blutner, R. (1998). Lexical pragmatics. *Journal of Semantics*, **15**:115–162.

Blutner, R. (1999). Some aspects of optimality in natural language interpretation. ms., Berlin.

Dekker, P. and R. van Rooy (2000). Optimality theory and game theory: Some parallels. ms. University of Amsterdam.

Fabricius-Hansen, C. (1983). Wieder éin *wieder*? Zur Semantik von *wieder*. In R. Bäuerle, C. Schwarze, and A. von Stechow, eds., *Meaning, Use and Interpretation of Language*, pp. 97–120. de Gruyter, Berlin, New York.

Jäger, G. and R. Blutner (1999). Against lexical decomposition in syntax. To appear in Proceedings of IATL 15.

Schwarzschild, R. (1999). Givenness, avoid F and other constraints on the placement of accent. *Natural Language Semantics*, **7**(2):141–177.

van der Sandt, R. (1992). Presupposition projection as anaphora resolution. *Journal of Semantics*, **9**:333–377.

von Stechow, A. (1996). The different readings of wieder "again": A

structural account. *Journal of Semantics*, **13**(2):87–138.

Williams, E. (1997). Blocking and anaphora. *Linguistic Inquiry*, **28**(4):577–628.