Kathol (2003)
Subjects in unexpected places and sharing argument-structures

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General Outline

(1) K's proposal
   a. what data motivate it?
   b. what are (K's) basic assumptions about German sentence-structure?
   c. how does K's proposal work?
   d. why do this with ARG-ST inheritance?

What data motivate K's proposal?

(2) daß ein Außenseiter das Rennen gewonnen hat
that an outsider$_{[\mathrm{NOM}]}$ the race$_{[\mathrm{ACC}]}$ won has
'that an outsider won the race'

(3) [dieses Rennen gewonnen]$_i$ [hat ein Außenseiter noch nie $\_{}_i$]
this race$_{[\mathrm{ACC}]}$ won has an outsider$_{[\mathrm{NOM}]}$ yet never
'an outsider hasn't ever won this race yet'

What data motivate K's proposal?

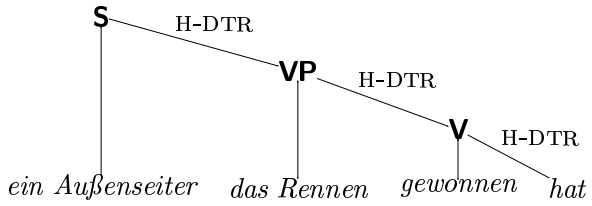
(4) [ein Außenseiter gewonnen]$_i$ [hat hier noch nie $\_{}_i$]
an outsider$_{[\mathrm{NOM}]}$ won has here yet never
'an outsider hasn't ever won here yet'

Example (4) is problematic given:
- the traditional representation of valence-saturation as information-loss.
- standard assumptions about what it is that raising predicates inherit.

basic assumptions: verb clusters, constituency

The sequence of verbs at the end of a German clause form a constituent. For example:

(5) daß ein Außenseiter das Rennen **gewonnen hat**
that an outsider$_{[\text{NOM}]}$ the race$_{[\text{ACC}]}$ won has
'that an outsider won the race'



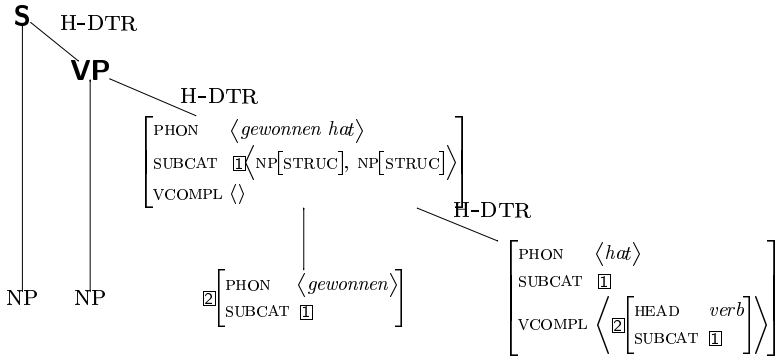
basic assumptions: verb clusters, lexical entries

Since the auxiliary *hat* heads the complex predicate *gewonnen hat*, *hat*'s valence determines the valence of the predicate *gewonnen hat*.

Auxiliary *hat* must therefore raise the SUBCAT elements of its verbal complement:

$$\begin{bmatrix}\text{PHON} & \langle \textit{gewonnen} \rangle \\ \text{SUBCAT} & \langle \text{NP}[\text{STRUC}], \text{NP}[\text{STRUC}] \rangle\end{bmatrix} \qquad \begin{bmatrix}\text{PHON} & \langle \textit{hat} \rangle \\ \text{SUBCAT} & \boxed{1} \\ \text{VCOMPL} & \left\langle \begin{bmatrix}\text{HEAD} & \textit{verb} \\ \text{SUBCAT} & \boxed{1}\end{bmatrix} \right\rangle\end{bmatrix}$$

basic assumptions: verb clusters, argument-composition at work



basic assumptions: how nominal arguments get case

standard structural *nominative* assignment:

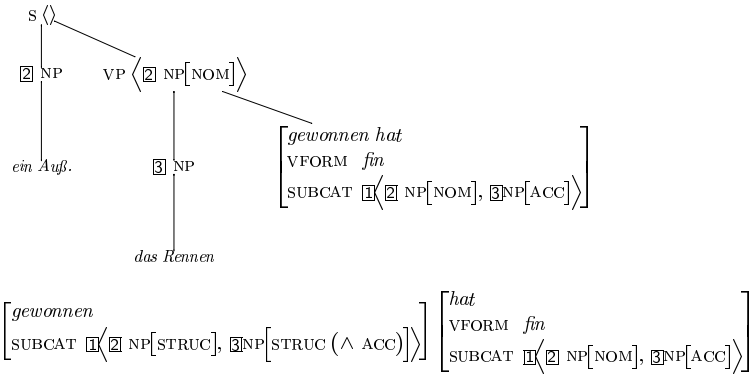
$$\begin{bmatrix}\text{HEAD}|\text{VFORM} & \textit{fin} \\ \text{SUBCAT} & \langle \text{NP}[\text{STRUC}], \ldots \rangle\end{bmatrix} \rightarrow \left[\text{SUBCAT} \left\langle \text{NP}[\text{NOM}], \ldots \right\rangle\right]$$

Notice that the key to getting (structural) nominative case comes down to being on the right spot on some finite head's SUBCAT list.

standard structural *accusative* assignment:

$$\begin{bmatrix}\text{HEAD} & \textit{verb} \\ \text{SUBCAT} & \langle \textit{synsem}, \text{NP}[\text{STRUC}], \ldots \rangle\end{bmatrix} \rightarrow \left[\text{SUBCAT} \left\langle \textit{synsem}, \text{NP}[\text{ACC}], \ldots \right\rangle\right]$$

basic assumptions: nominal arguments getting case



basic assumptions: linearization

For our purposes, this means that the finite head of a finite clause can hop around in the linear order of that clause, **independently** of the dominance relations that hold among the elements of that clause.

(6) (daß) ein Außenseiter das Rennen gewinnen dürfen **wird**
(that) an outsider the race to-win may **will**
'(that) an outsider will be allowed to win the race'

(7) **wird** ein Außenseiter das Rennen gewinnen dürfen
will an outsider the race to-win may
'will an outsider be allowed to win the race?'

The dominance relations in (6) and (7) are identical (and the constituents are identical too, up to their topological labels and consequent domain-orderings).

basic assumptions: linearization

The main elements of a clause are labelled and ordered as follows:

$vorfeld \prec comp/finite \prec mittlefeld \prec verb\text{-}cluster \prec nachfeld$

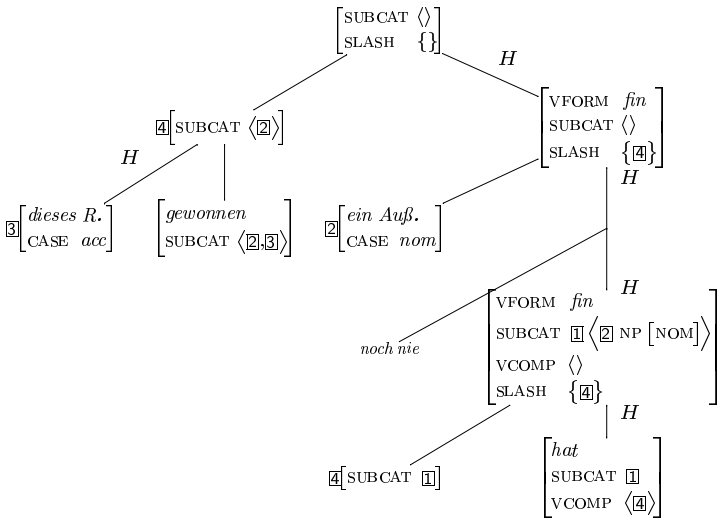
The finite head can given one of two labels:

- cf – the $comp/finite$ element, as $wird$ is in (7)
- vc – a $verb\text{-}cluster$ element, as $wird$ is in (6).

basic assumptions: the structure of (3)(=8)

(8) [dieses Rennen gewonnen]$_i$ [hat ein Außenseiter noch nie $-_i$]
this race$_{[ACC]}$ won has an outsider$_{[NOM]}$ yet never

'an outsider hasn't ever won this race yet'

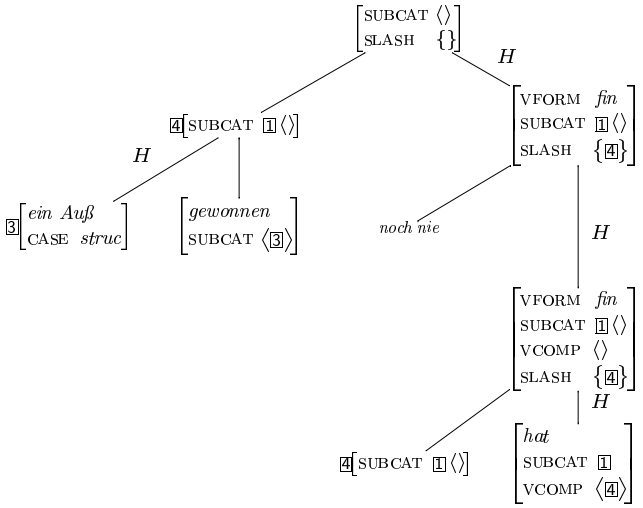


basic assumptions: *what* structure of (4)(=9)?

(9) [ein Außenseiter gewonnen]$_i$ [hat hier noch nie $\_i$]
an outsider$_{[\mathrm{NOM}]}$ won has here yet never

'an outsider hasn't ever won here yet'

ein Außenseiter can only be nominative, but nothing in the theory's making it be anything other than *structural*:



how K's proposal works

K proposes to use ARG-ST to provide the missing information-link between finite verbs and the fronted projections of their verbal complements containing subjects.

- K defines ARG-ST for both words and phrases.
- K has SSR verbs share not only their SUBCAT values, but also their ARG-ST values with their verbal complements.
- Verbs which both raise arguments of a verbal complement and also assign semantic roles to arguments of their own append their verbal complement's ARG-ST list after the list of those elements to which they assign roles. (picture on next slide)
- K uses ARG-ST to effect structural case-assignment.

how K's proposal works: ARG-ST on phrases

Following Adam P., he defines ARG-ST for all signs and projects the ARG-ST of a head onto its mother:

$$\begin{bmatrix} phrase \\ \text{ARG-ST } \boxed{1} \end{bmatrix} \rightarrow \left[\text{HD-DTR}|\text{ARG-ST } \boxed{1}\right]$$

how K's proposal works: some verbs

an SSR verb:

$$\begin{bmatrix} hat \\ \text{SUBCAT } \boxed{1} \\ \text{ARG-ST } \boxed{2} \\ \text{VCOMPL } \begin{bmatrix} \text{SUBCAT } \boxed{1} \\ \text{ARG-ST } \boxed{2} \end{bmatrix} \end{bmatrix}$$

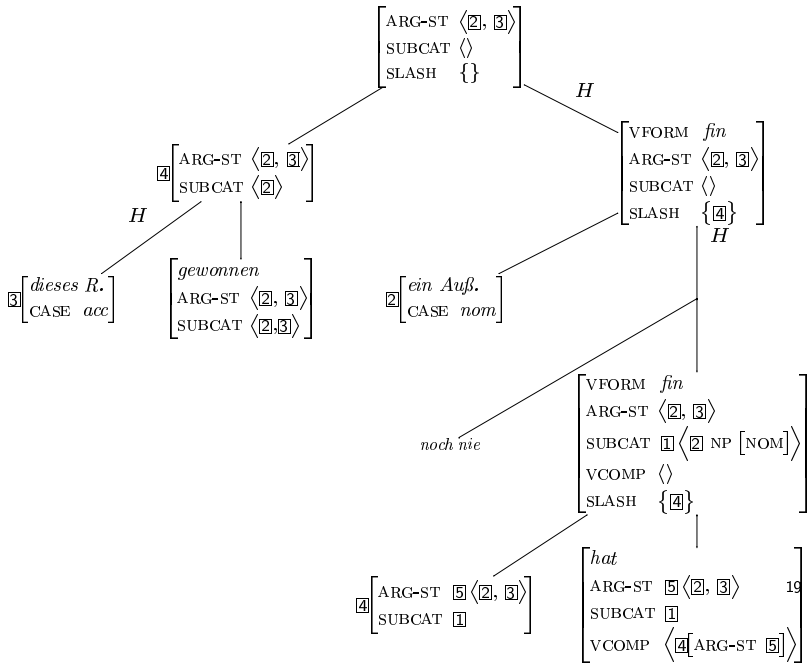
an SOR (=AcI) verb:

$$\begin{bmatrix} sah \\ \text{SUBCAT } \langle \boxed{3} \text{ NP} \rangle \circ \boxed{1} \\ \text{ARG-ST } \langle \boxed{3} \rangle \circ \boxed{2} \\ \text{VCOMPL } \begin{bmatrix} \text{SUBCAT } \boxed{1} \\ \text{ARG-ST } \boxed{2} \end{bmatrix} \end{bmatrix}$$

how K's proposal works: almost there

Now the ARG-ST of a verb is visible throughout its head-path.

Take a look at (3) now:



how K's proposal works: new case-assignment

In order to use the now-available ARG-ST information, K assigns needs to assign case on ARG-ST instead of SUBCAT:
K's structural *nominative* assignment:

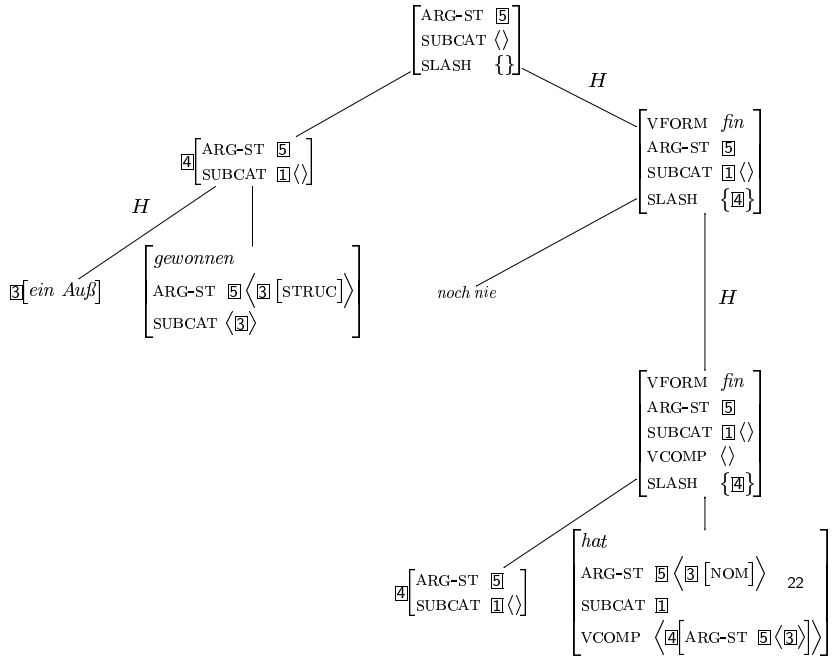
$$\begin{bmatrix}\text{HEAD|VFORM} & \textit{fin} \\ \text{ARG-ST} & \left\langle \text{NP}\left[\text{STRUC}\right], \ldots \right\rangle\end{bmatrix} \rightarrow \left[\text{ARG-ST} \left\langle \text{NP}\left[\text{NOM}\right], \ldots \right\rangle\right]$$

Now the key to getting (structural) nominative case comes down to being on the right spot on some finite head's ARG-ST list.

K's structural *accusative* assignment:

$$\begin{bmatrix}\text{HEAD} & \textit{verb} \\ \text{ARG-ST} & \left\langle \textit{synsem}, \text{NP}\left[\text{STRUC}\right], \ldots \right\rangle\end{bmatrix} \rightarrow \left[\text{ARG-ST} \left\langle \textit{synsem}, \text{NP}\left[\text{ACC}\right], \ldots \right\rangle\right]$$

how K's proposal works: K's proposal working for (4)



why do it with ARG-ST inheritance?

- it's one way of implementing Ackerman and Webelhuth's ideas
- cross-linguistic support:
  - Polish *za*
  - Urdu light-verb constructions
  - long-distance agreement in Tsez

cross-linguistic support: Polish

(10) uważałem go [{za szczerego / za studenta]}
considered.1SG him.ACC as sincere.ACC / as student.ACC
'I considered him to be sincere / to be a student.'

(11) * uważałem go$_i$ za siebie$_i$ samego
considered.1SG him.ACC as Self.ACC Emph.MASC
'I considered him to be himself (ungrammatical).'

(12) uważałem go$_i$ za niego$_i$ samego
considered.1SG him.ACC as him.ACC Emph.MASC
'I considered him to be himself.'

cross-linguistic support: Polish

Adam P. says he needs:

- the SUBJ value of *za*'s (predicative NP/AP)object to be identical to the SYNSEM value of *uważałem*'s direct object.
- The verb's direct object must not count as a possible anaphoric binder of the preposition's object.
- that is, there must be no (ARG-ST?) representation where said SUBJ value (i.e. the SYNSEM value of the verb's direct object) can bind the object of *za*.

cross-linguistic support: Polish

In a picture:

$$\left[\begin{array}{ll} word & \\ \text{PHON} & \langle \textit{uważałem} \rangle \\ \text{SS|LOC} & \left[\begin{array}{ll} \text{CAT|ARG-ST} & \left\langle \text{NP}\left[\text{INDEX } \boxed{1}\right], \boxed{0}, \text{PP}\left[\begin{array}{ll} \text{PFORM} & \textit{za} \\ \text{ARG-ST} & \left\langle \boxed{3}\left[\begin{array}{ll} \text{SUBJ} & \langle \boxed{0} \rangle \\ \text{CONT} & \boxed{2} \end{array}\right] \right\rangle \end{array}\right] \right\rangle \\ \text{CONT} & \left[\begin{array}{ll} \textit{consider} & \\ \text{CONSIDERER} & \boxed{1} \\ \text{SOA-ARG} & \boxed{2} \end{array}\right] \end{array}\right] \end{array}\right]$$

On no ARG-STRUC list may $\boxed{0}$ be first and binding $\boxed{3}$.

cross-linguistic support: Urdu

(13) Anjum ne d-ii Saddaf ko [ciṭṭ^{h}ii lik^h-ne].
Anjum ERG give-PERF.F.SG Saddaf DAT letter.F.NOM write-INF
'Anjum let Saddaf write a letter.'

The light verb *d-iik* 'give' agrees with the object of *lik^h-n* 'letter'.

Valence information alone will not provide the necessary local paths.

cross-linguistic support: Tsez

(14) mother-DAT [boy-ERG bread.III.ABS III-eat-PT.PART-NMLZ] III-know-PRES.

'the mother knows that the boy ate the bread.'

Matrix predicate *know* agrees in gender class (III) with the absolutive-marked element of the embedded clause.

(Notice that it also seems to agree with the verbal *head* of the embedded clause.)

References

[1] Farrell Ackerman and Gert Webelhuth. *A Theory of Predicates*. CSLI, Stanford, 1998.

[2] Wolfgang Heinz and Johannes Matiasek. Argument structure and case assignment in German. In John Nerbonne, Klaus Netter, and Carl Pollard, editors, *German in Head-Driven Phrase Structure Grammar*, number 46, pages 199–236. 1994.

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[5] Adam Przepiórkowski. ARG-ST on phrases: Evidence from Polish. In Dan Flickinger and Andreas Kathol, editors, *Proceedings of the 7th International HPSG Conference. UC Berkeley (22–23 July, 2000)*, pages 267–284. 2001. http://cslipublications.stanford.edu/HPSG/HPSG00/hpsg00-toc.html.