

Structure Removal

A New Approach to Conflicting Representations

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Note:

What follows are basically the original lecture notes for a research-oriented seminar/lecture series as they were developed successively during last year's winter term (2014/2015) at Universität Leipzig. I have minimally reorganized some of the material (e.g., by putting the sketch of a theory of Remove first rather than last, where it would have belonged from a chronological perspective); I have left out certain parts that looked like dead-ends; and I have mildly adjusted diverging notational systems to the approach as it currently presents itself wherever this was possible without too much ado. Still, I would like to emphasize that no attempt has been made to substantially revise or unify any of the material; as a result, there are several minor redundancies, and even a few parts where the text is in German. Also, since the whole research programme is still very much in its early stages, what follows is bound to contain inconsistencies and mistakes.

1. Introduction

Main claim:

Syntactic derivations employ two elementary operations modifying representations: In addition to an operation that *builds* structure – *Merge* (Chomsky (2001; 2008; 2013)) –, there is a complementary operation that *removes* structure: *Remove*.

Conflicting representations:

1. There is substantial evidence for conflicting representations in syntactic derivations.
2. The standard means to account for this is movement (internal Merge): If some item α shows properties associated both with position P and position Q, then this is due to the fact that α has moved from Q to P.
3. Addressing conflicting representations in terms movement is often straightforward (e.g., θ -assignment in the base, satisfaction of criterial movement constraint in the derived position, as with wh-movement of an object), sometimes less obviously so (see, e.g., Weisser (2014) on medial clauses and asymmetric coordination, derived by correlating base-generated subordination (Q) and surface coordination (P) by movement of the clause).
4. However, there are many cases of conflicting representations that do not lend themselves to analyses in terms of movement.
5. These latter cases can be straightforwardly derived by structure removal.

Observation:

If Remove exists as the mirror image of Merge, it is expected to show similar properties and obey identical constraints.

Assumptions about Merge:

- (i) Merge is feature-driven. It is triggered by designated $[\bullet F \bullet]$ features, which are ordered on lexical items (Svenonius (1994), Grewendorf (2002), Collins (2002), Adger (2003), Lechner (2004), Kobele (2006), Sternefeld (2006), Pesetsky & Torrego (2006), Heck & Müller (2007), Collins & Stabler (2011), Abels (2012), Georgi (2014a), Müller (2014b), Stabler (2013)).
 - (ii) Merge may apply to heads (incl. head movement in cases of internal Merge) or phrases (incl. XP movement in cases of internal Merge): $[\bullet F_0 \bullet]$, $[\bullet F_2 \bullet]$. (0=min, 2=max.)
 - (iii) Merge obeys the Strict Cycle Condition in (1) (Chomsky (1973; 1995; 2001; 2008); also cf. the Extension Condition and the No Tampering Condition).
 - (iv) Merge can be external or internal.
- (1) *Strict Cycle Condition* (SCC):
Within the current XP α , a syntactic operation may not exclusively target some item δ in the domain of another XP β if β is in the domain of α .
 - (2) *Domain* (Chomsky (1995)):
The domain of a head X is the set of nodes dominated by XP that are distinct from and do not contain X.

Assumptions about Remove:

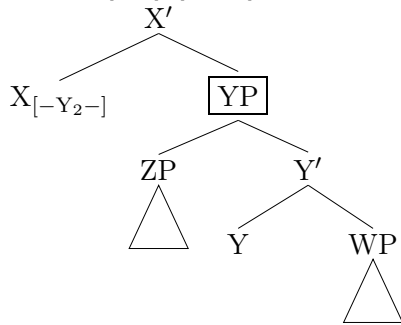
- (i) Remove is feature-driven. It is triggered by designated $[-F-]$ features, which are ordered on lexical items.
- (ii) Remove may apply to heads or phrases: $[-F_0-]$, $[-F_2-]$.

(iii) Remove obeys the Strict Cycle Condition.

(iv) Remove can be external or internal.

(3) *Remove and phrases: complements*

a. Merge($X_{[\bullet Y \bullet]} > [-Y_2 -]$, YP):



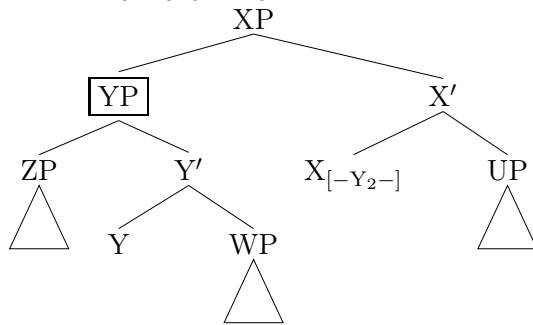
b. Remove($X_{[-Y_2 -]}$, YP):
X

Note:

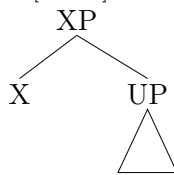
ZP, WP cannot be removed by X because of the Strict Cycle Condition.

(4) *Remove and phrases: specifiers*

a. Merge($X'_{[\bullet Y \bullet]} > [-Y_2 -]$, YP):



b. Remove($X'_{[-Y_2 -]}$, YP):

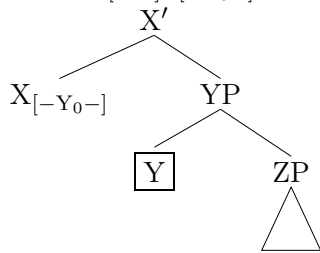


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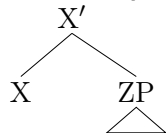
Again, ZP & WP cannot be removed by X because of the Strict Cycle Condition. In principle, X might also remove UP in this configuration after YP has been merged. To avoid this outcome, the Strict Cycle Condition could be strengthened (from phrases to projections). Alternatively, such a derivation might be permitted (also cf. Richards (2001) on tucking in with internal Merge).

(5) *Remove applying to heads: complements*

a. Merge($X_{[\bullet Y \bullet]} >_{[-Y_0-]}$, YP):



b. Remove($X_{[-Y_0-]}$, Y):

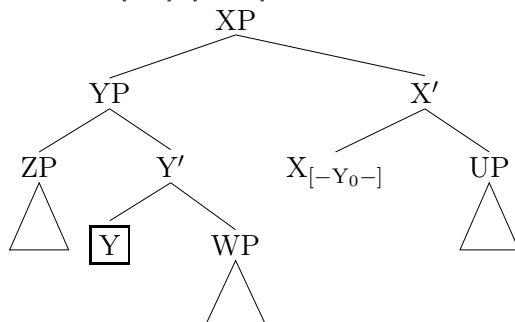


Note:

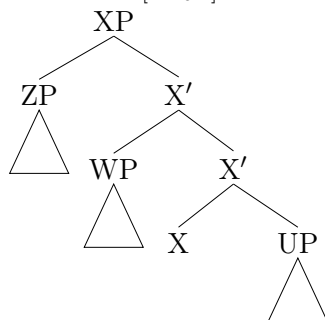
Since $[-F_0-]$ removes the head, it takes away the highest projection, and only this. More deeply embedded material (like ZP) is attached to the head responsible for removal and replaces the original item (YP): This works exactly like tree pruning (see Ross (1967)). If there are two or more items in YP (e.g., ZP, WP), they reassemble in their original structural and linear order in the XP domain.

(6) *Remove applying to heads: specifiers*

a. Merge($X'_{[\bullet Y \bullet]} >_{[-Y_0-]}$, YP):



b. Remove($X'_{[-Y_0-]}$, Y):



Short life cycle effects:

1. Some other operation Γ can be interspersed between Merge(X,YP) and Remove(X,Y(P)).
2. However, due to the Strict Cycle Condition, a YP removed by $[-F-]$ is predicted to have a short life cycle: It is only accessible for other operations for a small part of the derivation.

3. Given incremental, bottom-up derivations, this implies that YP is accessible from below (downward accessibility) and inaccessible from above (upward inaccessibility): Remove counter-bleeds Γ but bleeds subsequent operations (see Chomsky (1951), Kiparsky (1973)).
4. There is empirical evidence for short life cycle effects of this type.
5. Alternative accounts can only derive these kinds of effects on a case-by-case basis, as conspiracies because they cannot acknowledge, and model, a systematic pattern.

Relevant phenomena:

1. Removal of YP:

- grammatical function-changing: DP removal triggered by $[-D_2-]$ on v or V (passive, applicative, antipassive).
- deletion: sluicing triggered by $[-T_2-]$ on C, VP ellipsis triggered by $[-V_2-]$ on T.

2. Removal of Y:

- reanalysis: restructuring, extraction phenomena, etc., triggered by $[-Y_0-]$.
- DP/NP oscillation (Bošković (2012) on Slavic languages, Arkadiev & Testelets (2014) on conflicting structure assignments to nominal projections in Circassian (Adyghe and Kabardian), Kornfilt (2013) on similar phenomena in Turkish).

2. Preamble: Complementizer-Trace Effects

A recent reanalysis approach to complementizer-trace effects in English (Chomsky (2014))

(7) *Complementizer-trace effects* (Chomsky & Lasnik (1977))

- a. Who₁ do you think [α that Mary likes t₁] ?
- b. Who₁ do you think [β Mary likes t₁] ?
- c. *Who₁ do you think [α that t₁ likes Mary] ?
- d. Who₁ do you think [β t₁ likes Mary] ?

2.1. Predecessors

Predecessors of Chomsky's new analysis: Gazdar (1981), Grimshaw (1997). Basic assumptions (slightly anachronistic):

- SpecT is filled by the subject DP in English.
- Movement from SpecT across a complementizer (like *that*) (fatally) violates a constraint because of the category α that is present with complementizers. (This is the Generalized Left Branch Condition in Gazdar (1981), and a proper government requirement in Grimshaw (1997)).
- There is less structure in contexts without a lexical complementizer; and extraction from β is unproblematic.
- It is independently ensured that β rather than α shows up in (7-bd). In Gazdar's approach, α is S and β in (7-d) is VP. In Grimshaw's approach, α is CP and β in (7-d) is TP or VP.
- Structural reanalysis is brought about by a designated metarule in Gazdar (1981), and by an optimality-theoretic competition that ensures minimality of structural representations in Grimshaw (1997).

- Thus, in both these approaches, there is some kind of structural reanalysis, but, crucially, it is not sequential.

(8) *Gazdar's approach:*

a. *Generalized Left Branch Condition:*

* $[\alpha/\beta \ \sigma/\beta \ \dots]$

where α and σ are any node labels, and $\beta = \text{DP}$.

b. *Subject Termination Metarule:*

$[\alpha \ X \ \Sigma_{[-C]}/\text{DP} \ \dots] \implies [\alpha \ X \ \text{VP}_{[+fin]} \ \dots]$

where X contains at least one major category symbol, where α is anything and where Σ ranges over sentential categories.

(9) *Grimshaw's approach* (based on Deprez (1991)):

a. T-GOV:

A trace is governed. (C and V can both do this.)

b. T-LEX-GOV:

A traces is lexically governed. (V can do this, C can't.)

c. OP-SPEC:

A wh-phrase must be in a wh-specifier position.

Tableau 1: Object movement

Candidates	OP-SPEC	T-GOV	T-LEX-GOV
\Rightarrow O ₁ : $\text{who}_1 \dots \text{V} [\text{CP that } [\text{VP Mary likes } t_1]]$			
\Rightarrow O ₂ : $\text{who}_1 \dots \text{V} [\text{VP Mary likes } t_1]$			
O ₃ : $\dots \text{V} [\text{CP that } [\text{VP Mary likes } \text{who}_1]]$	*!		
O ₄ : $\dots \text{V} [\text{VP Mary likes } \text{who}_1]$	*!		

Tableau 2: Subject movement

Candidates	OP-SPEC	T-GOV	T-LEX-GOV
O ₁ : $\text{who}_1 \dots \text{V} [\text{CP that } [\text{VP } t_1 \text{ likes Mary }]]$			*!
\Rightarrow O ₂ : $\text{who}_1 \dots \text{V} [\text{VP } t_1 \text{ likes Mary }]$			
O ₃ : $\dots \text{V} [\text{CP that } [\text{VP } \text{who}_1 \text{ likes Mary }]]$	*!		
O ₄ : $\dots \text{V} [\text{VP } \text{who}_1 \text{ likes Mary }]$	*!		

Side remark:

Why does this qualify as an optimality-theoretic analysis? No constraints are violated by any of the optimal candidates. The answer comes from adjunct movement.

(10) *Adjunct movement without complementizer-trace effects:*

a. $\text{When}_1 \text{ do you think } [\text{CP that they will see them } t_1] ?$

b. $\text{When}_1 \text{ do you think } [\text{IP they will see them } t_1] ?$

Tableau 3: Adjunct movement

Candidates	OP-SPEC	T-GOV	T-LEX-GOV
\Rightarrow O ₁ : $\text{when}_1 \dots \text{V} [\text{CP that } [\text{TP they will see them } t_1]]$		*	*
\Rightarrow O ₂ : $\text{when}_1 \dots \text{V} [\text{TP they will see them } t_1]$		*	*
O ₃ : $\dots \text{V} [\text{CP that } [\text{TP they will see them } \text{when}_1]]$	*!		
O ₄ : $\dots \text{V} [\text{TP they will see them } \text{when}_1]$	*!		

2.2. Chomsky's (2014) Approach

Background:

Chomsky (2013) on labelling.

(11) *Assumptions about labelling:*

- a. When X merges with YP, X provides the label.
- b. When XP merges with YP, a label cannot be provided for the new constituent. However, there must be some label. Two options arise:
 - (i) XP moves; then YP provides the label. (Traces/copies do not count.)
 - (ii) XP and YP agree on some feature that provides the label.

(12) *Extended Projection Principle:*

- a. $[_{T'} T [_{vP} [_{DP_1} \text{John}] v [_{vP} \text{likes Mary}]]]$ (internal Merge) \rightarrow
- b. $[[_{DP_1} \text{John}] [_{T'} T [_{vP} t_1 v [_{vP} \text{likes Mary}]]]]$ (labelling) \rightarrow
- c. $[_{\phi P} [_{DP_1} \text{John}] [_{T'} T [_{vP} t_1 v [_{vP} \text{likes Mary}]]]]$

(13) *Complementizer-trace effects:*

*Who₁ do you think $[_{CP} \text{that} [_{TP} t'_1 [_{vP} t_1 \text{likes Mary}]]]$?

Analysis in Chomsky (2013, 15):

If *who*₁ moves from the embedded SpecT position, there is nothing left in SpecT that agrees with T, and the projection cannot be labelled. (Implicit auxiliary assumption: Perhaps because of the EPP requirement of T, this XP-YP projection cannot be labelled by movement of XP.) So *who*₁ must stay in SpecT. But then, since CP is a phase, subsequent movement of *who*₁ on a later cycle will invariably violate the Phrase Impenetrability Condition (PIC, Chomsky (2001)).

Open question in Chomsky (2013):

Why is subject movement without a complementizer possible?

(14) *Subject movement without C:*

Who₁ do you think $[_{TP} t'_1 [_{vP} t_1 \text{likes Mary}]]$?

Suggestion in Chomsky (2014):

C is eliminated in the course of the derivation here, after it has transferred its features to T, including phase status. Therefore, the subject wh-phrase does not have to move to a local SpecC position. When it eventually moves into the matrix clause, the labelling of TP cannot be undone. (Phase heads have memory.)

(15) *Order of operations according to Chomsky (2014):*

- a. Inheritance: C transfers its features to T.
- b. Internal Merge of the subject DP in SpecT (because of EPP).
- c. Labelling: $[_{\phi P} \text{who} [_{T'} T \dots]]$
- d. $C \rightarrow \emptyset$
- e. Transfer: (a) ϕP becomes a phase. (b) vP is transferred.

Hornstein's (2014) assessment:

"This story requires that *that* is deleted rather than not present at all. Were it never present, C could not transfer its features to T, and T has no features of its own. [...] Thus, to make this work, we need deletion operations in the syntax. A question that arises is how similar the operation deleting *that* is to more run of the mill ellipsis operations. The latter are generally treated as simply dephonicization processes. This will not suffice here. It must be that getting rid of phonetic content *requires* that all features of C lower to T."

Note:

Whatever the merits of this analysis, it is clear that we are dealing with a prototypical case of syntactic *structure removal*: First, C is present (and active, and available for syntactic operations/constraints), and then, C is gone (hence invisible for subsequent operations/constraints). All of this happens to one syntactic object. This is different from the Gazdar/Grimshaw approaches where the smaller (complementizer-less) structure is independently generated; and it is radically different from most other approaches to complementizer-trace effects where the CP structure as such is maintained even if C is not phonologically realized.

Outlook:

Structure removal in derivational approaches to syntax:

1. There is some derivational stage Σ_i where
 $[\alpha \dots [\beta \dots] \dots]$
2. There is some derivational stage $\Sigma_j, j > i$ where
 $[\alpha' \dots [\beta \dots] \dots]$, and α' ($\neq \alpha$) has the same structural relation to β as α .

Hypothesis: α' , β have to be extremely local (Strict Cyclicity)

3. Removal of YP: Grammatical Function-Changing

3.1. Passive

3.1.1 Data

Background:

There is evidence in support of a syntactic approach to passive where the external argument is accessible (Chomsky (1957), Perlmutter & Postal (1983), Baker, Johnson & Roberts (1989), Sternefeld (1995), Collins (2005), Schäfer (2012b), Alexiadou & Doron (2013), Harley (2013), Merchant (2013), Georgi (2014b)). (The external argument is rendered as DP_{ext} in what follows.)

(16) *I: Control by DP_{ext} into purpose clauses:*

- a. Das Schiff wurde DP_{ext_1} versenkt [_{CP} PRO₁ um die Versicherung zu
the ship was sunk in order the insurance to
kassieren]]
collect
- b. Der Reifen wurde DP_{ext_1} aufgepumpt [_{CP} PRO₁ um die Fahrt fortzusetzen]
the tire was inflated in order the journey to continue

(17) *II: Subject-oriented secondary predicates and DP_{ext} :*

- a. Die Daten wurden DP_{ext_1} [_{SC} PRO₁ nackt] analysiert
the data were naked analyzed
- b. Das Handout wurde DP_{ext_1} [_{SC} PRO₁ übermüdet] verfasst
the handout was tired written
- c. Es wurde [_{SC} PRO₁ absichtlich] ein Fehler gemacht
it was deliberately a mistake made
- d. Dort wird [_{SC} PRO₁ freiwillig] gearbeitet
there is voluntarily worked

(18) *III: Principle A and DP_{ext} :*

- a. Hier wurde DP_{ext_1} sich₁ nicht geprügelt
here was REFL not hit

- b. Es wurde DP_{ext_1} einander₁ gedankt
 it was each other thanked

(19) *IV: Principle C and DP_{ext} :*

- a. *Gestern wurde DP_{ext_1} Fritz₁ eingeladen
 yesterday was Fritz invited
intended reading: ‘Yesterday, Fritz invited himself.’
 b. ??Gestern wurde DP_{ext_1} Fritz₁ [_{PP} von sich₁] (selbst) geschlagen
 yesterday was Fritz by himself self invited

Side remark:

The English analogues of (19-ab) are both excluded as Strong Crossover violations in Baker et al. (1989).

(20) *Strong Crossover:*

- a. *They₁ were kill-PASS₁ t₁
 b. *They₁ were kill-PASS₁ t₁ [_{PP} by themselves₁]

Assumption in Baker et al. (1989):

Strong crossover effects can be derived from the constraints on chain formation in Rizzi (1986b). However, strong crossover cannot be involved in (19-a) because German can assign nominative case into the VP, and does not have obligatory case- or EPP-driven subject raising (see Grewendorf (1989), and below).

(21) *Downward Accessibility Generalization:*

The external argument in passive constructions (DP_{ext}) is accessible for items below v' .

Observation:

A question that does not seem to have been widely pursued is whether the external argument in passive constructions is also accessible for higher items. (Notational convention: $\overline{DP_{ext}}$ means that DP_{ext} seems to be inaccessible.)

(22) *V: Unavailability of binding in impersonal passives:*

- a. *Kein Student₁ glaubt [_{CP} dass $\overline{DP_{ext_1}}$ gut gearbeitet wird]
 no student believes that well worked is
 b. Kein Student₁ glaubt [_{CP} dass $\overline{DP_{ext_1}}$ [_{PP} von ihm₁] gut gearbeitet wird]
 no student believes that by him well worked is

(23) *VI: Unavailability of binding in personal passives:*

- a. *Er hat den meisten Lehrern₁ erzählt [_{CP} dass $\overline{DP_{ext_1}}$ der Maria Bücher
 he has the most teachers_{dat} told that the Maria_{dat} books_{nom}
 geschenkt werden sollen]
 given are should
 b. Er hat den meisten Lehrern₁ erzählt [_{CP} dass [_{PP} von ihnen₁] $\overline{DP_{ext_1}}$ der
 he has the most teachers_{dat} told that by themselves the
 Maria Bücher geschenkt werden sollen]
 Maria_{dat} books_{nom} given are should

Note:

Non-overt material can satisfy criterial movement constraints in German.

(24) *Non-overt material and movement:*

- a. Wer₁ glaubst du [CP – hat Recht] ?
 who_{nom} think you is right
- b. – habe ich schon gesehen heute
 (her) have I already seen today

(25) *VII: Unavailability of criterial movement of DP_{ext} in passive constructions:*

- a. *Ich denke [CP ~~DP_{ext1}~~ ist gut gearbeitet worden]
 I think is well worked been
- b. Ich denke [CP [PP von ihr₁] ist gut gearbeitet worden]
 I think by her is well worked been
- c. Ich denke [CP es ist ~~DP_{ext1}~~ gut gearbeitet worden]
 I think it is well worked been

Observation (Stechow & Sternefeld (1988, 447-451), Wunderlich (1989), Stechow (1989)):
 Control infinitives must have an accessible subject argument.

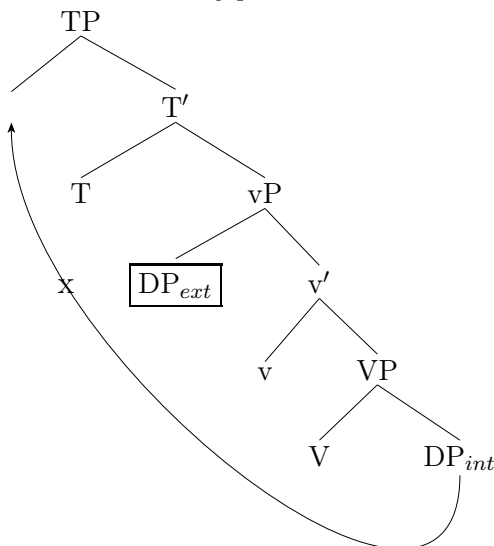
(26) *VIII: Unavailability of control into impersonal passives:*

- a. *Er versucht [CP ~~DP_{ext}~~ gearbeitet zu werden]
 he tries worked to be
- b. *weil [CP bald ~~DP_{ext}~~ geschlafen zu werden] gewünscht wird
 because soon slept to be wished is

Observation (Collins (2005)):

If the external argument is structurally represented in passive constructions, it is unclear why movement of the internal argument to subject position can take place, given the Minimality Condition: DP_{ext} in Specv is invariably closer to SpecT than DP_{int} in VP.

(27) *IX: The Minimality problem with movement to subject position:*



However:

DP_{int} moves to SpecT in English passive constructions; and DP_{int} can also move to SpecT in German passive constructions where such movement is optional.

- (28) *Subject movement in passive constructions in English:*
 [TP John₂ was [_{vP} $\overline{\text{DP}}_{\text{ext},\text{T}}$ [_{v'} v [_{vP} killed t₂]]]]

A test for optional movement to SpecT in German (Müller (2001)):

- (i) Only a nominative subject argument DP can precede unstressed pronouns and at the same time follow C elements; object DPs cannot do so.
 (ii) Unstressed pronouns move to a domain that precedes the landing sites for scrambling (specifiers of vP) and follows SpecT (this rules out (29-c)).
 (iii) Subject DPs can optionally move to some designated position in front of unstressed pronouns: SpecT.

- (29) *Optional subject movement in active constructions in German:*

- a. dass es₃ [_{vP} der Fritz₁ dem Karl₃ t₂ gegeben] hat
 that it_{acc} the Fritz_{nom} the Karl_{dat} given has
 b. dass der Fritz₁ es₃ [_{vP} t₁ dem Karl₃ t₂ gegeben] hat
 that the Fritz_{nom} it_{acc} the Karl_{dat} given has
 c. *dass der Fritz₁ dem Karl₃ es₂ [_{vP} t₁ t₃ t₂ gegeben] hat
 that the Fritz_{nom} the Karl_{dat} it_{acc} given has
 d. *dass dem Karl₃ der Fritz₁ es₂ [_{vP} t₁ t₃ t₂ gegeben] hat
 that the Karl_{dat} the Fritz_{nom} it_{acc} given has

- (30) *Optional subject movement in passive constructions in German:*

- a. dass der Karl₂ ihr₃ [_{vP} $\overline{\text{DP}}_{\text{ext},\text{T}}$ [_{v'} [_{vP} t₃ t₂ vorgestellt] v]] wurde
 that the Karl_{nom} her_{dat} introduced was
 b. dass ihr₃ [_{vP} $\overline{\text{DP}}_{\text{ext},\text{T}}$ [_{v'} [_{vP} t₃ der Karl₂ vorgestellt] v]] wurde
 that her_{dat} the Karl_{nom} introduced was

Note:

This presupposes that DP arguments that themselves have to undergo movement do not give rise to intervention effects via the Minimality Condition; only DP arguments that stay in situ can do so. Also, it presupposes that movement operations like scrambling and unstressed pronoun fronting have a way to circumvent Minimality effects.

Observation (Pitteroff (2014)):

DP_{ext} does not block *anaphoric binding* from above in passive constructions, in contrast to other external arguments in German that act as interveners; cf. the passive/active pair in an AcI construction with *lassen* in (31) (Pitteroff (2014)). (German AcI constructions sometimes permit long-distance reflexivization, but this effect only shows up with PPs; cf. Reis (1976), Gunkel (2003), Barnickel (2014). Also, binding by the matrix subject in (31) cannot be due to raising of *sich* to the matrix clause because *sich* can participate in VP topicalization.)

- (31) *X: Transparency for anaphoric binding*

- a. Der König₁ lässt [_{pass} $\overline{\text{DP}}_{\text{ext}2}$ sich_{1/2} rasieren]
 the king_{nom} lets REFL shave
 b. Der König₁ lässt [_{act} die Diener₂ sich_{*1/2} rasieren]}
 the king_{nom} lets the servants REFL shave

- (32) *Upward Accessibility Generalization:*

The external argument in passive constructions (DP_{ext}) is *not* accessible for items above v'.

Combining the two generalizations, the Accessibility Generalization in (33) emerges.

- (33) *Accessibility Generalization:*
 DP_{ext} in passive constructions is accessible from below and inaccessible from above.

Note:

This general pattern does not follow under any syntactic approach without further stipulations. Existing approaches can only address individual subgeneralizations. (E.g., Bruening (2012) derives V/VI by building existential binding deeply into the working of passivization (at the cost of duplicating lexical entries); Collins (2005) derives IX by adopting a smuggling analysis (which must then rely on movement of non-constituents); Pitteroff (2014) derives X by postulating different different sizes for active vs. passive complements of *lassen*.)

Collins's (2005) proposal:

Smuggling: A constituent including DP_{int} and V (the PartP, alternatively: VP) moves to a higher position (SpecVoice), across DP_{ext} , and DP_{int} then undergoes extraction from the moved VP (PartP), in violation of Freezing.

Problems with smuggling:

Smuggling is incompatible with several constituency tests (given that a *by*-phrase is assumed to have *by* in Voice, and DP_{ext} to be realizable overtly as the DP that gets case from *by*).

- (34) *Constituency in double object constructions* \rightarrow *intraposition:*

- a. [DP_2 The book] was given by John to Mary \Leftarrow
 b. [$VoiceP$ [$Voice$ by] [vP John [v' v [VP the book [v' given [PP to Mary]]]]]]

- (35) *Non-constituent movement with 'by'-phrases* ('it can optionally pied-pipe a preceding preposition'):

- a. By [whom] was the book given to Mary ?
 b. *[By whom to Mary] was the book given ?

3.1.2 Analysis

Proposal:

- Passive is triggered by the optional addition of a $[-D_2-]$ feature to v in the numeration (i.e., to the very same head that introduces the external argument DP).
- $[-D_2-]$ on v will remove an existing DP specifier of v.
- The system is myopic and exerts instantaneous repair: Removal of an argument DP immediately triggers removal of the next case feature from v.

- (36) *Transitive passive constructions:*

- a. dass DP_{ext_1} das Buch₂ gelesen wurde
 that the book_{nom} read was
 b. Lexicon: $v: [\bullet V \bullet] \succ [\bullet D \bullet] \succ [*acc*]$ ($[\bullet F \bullet]$ = probe feature for Agree)
 c. Numeration: $v: [\bullet V \bullet] \succ [\bullet D \bullet] \succ \boxed{[-D_2-]} \succ [*acc*]$

- (37) *Scarcity of case features:*

A head assumes that the number of DPs and case features is balanced; undoing the effect of a $[\bullet D \bullet]$ feature by discharging a $[-D_2-]$ feature therefore invariably implies removal of a $[\bullet case \bullet]$ feature on a head in the syntax (if such a feature is present).

Note:

This implies that probes can be deleted when the need arises (see Béjar & Ěezáč (2009), Preminger (2011)).

(38) *A passive derivation:*

- a. $v: [\bullet V \bullet] \succ [\bullet D \bullet] \succ [-D_2-] \succ [*acc*]$, $[VP \text{ das Buch gelesen }]$
- b. $[_{v'} v: [\bullet D \bullet] \succ [-D_2-] \succ [*acc*] [VP \text{ das Buch gelesen }]]$
- c. $[_{VP} DP_{ext} [_{v'} v: [-D_2-] \succ [*acc*] [VP \text{ das Buch gelesen }]]]$
- d. Syntactic activity of DP_{ext} : a short life cycle in which control and binding of c-commanded items can be accomplished
- e. $[_{VP} v: [*acc*] [VP \text{ das Buch gelesen }]]$
- f. $[_{VP} v [VP \text{ das Buch gelesen }]]$

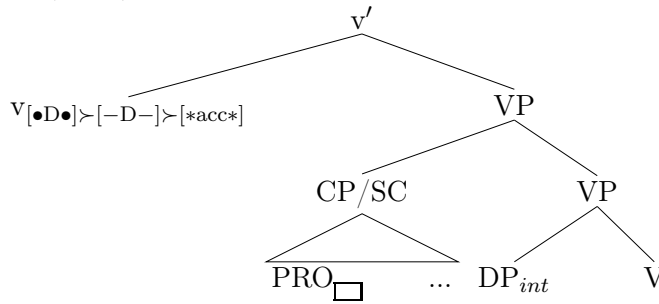
3.1.3 Life

(39) *Control:*

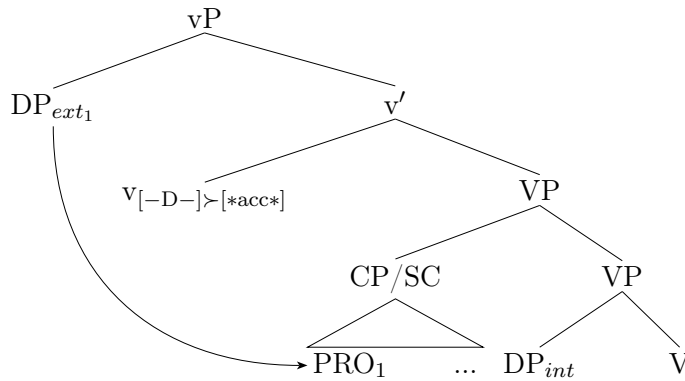
- a. Das Schiff wurde DP_{ext1} versenkt $[_{CP} PRO_1$ um die Versicherung zu kassieren]]
 the ship was sunk in order the insurance to collect
- b. Die Daten wurden DP_{ext1} [SC PRO_1 nackt] analysiert
 the data were naked analyzed

(40) *Control in passive derivations*

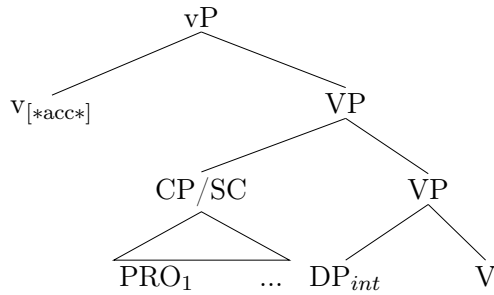
a. *Merge(v, VP)*



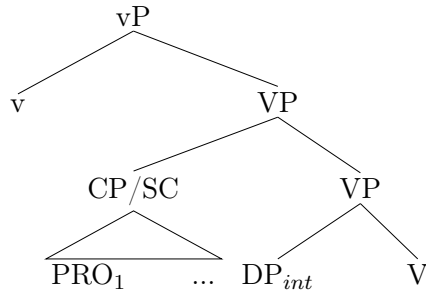
b. *Control by DP_{ext} : Merge(DP_{ext}, v')*



c. *Counter-Bleeding of control by DP_{ext}: Remove(DP_{ext}, v')*



d. *Case probe removal*



Note:

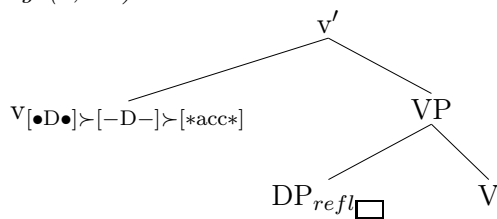
Remove would bleed control (because it removes the context in which control can apply) but comes too late to actually do so – control has already applied. Thus, opaque rule interaction results: *counter-bleeding*. The output representation is opaque because it is not clear how control can have applied successfully – there is no controller left at this point.

(41) *Binding:*

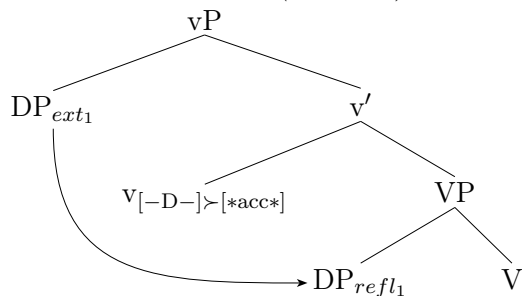
- a. Hier wurde DP_{ext1} sich₁ nicht geprügelt
 here was REFL not hit
- b. *Gestern wurde DP_{ext1} Fritz₁ eingeladen
 yesterday was Fritz invited
intended reading: ‘Yesterday, Fritz invited himself.’

(42) *Binding in passive derivations*

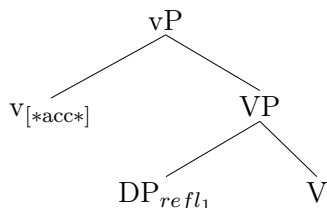
a. *Merge(v, VP)*



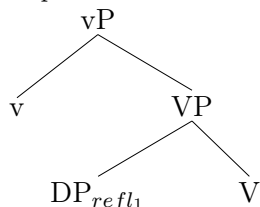
b. *Reflexivization: Merge(DP_{ext}, v')*



c. *Counter-bleeding of reflexivization: Remove(DP_{ext}, v')*



d. *Case probe removal*



Note:

Principle A (more generally, whatever brings about reflexivization) is an Anywhere Principle (see Belletti & Rizzi (1988), Epstein et al. (1998)).

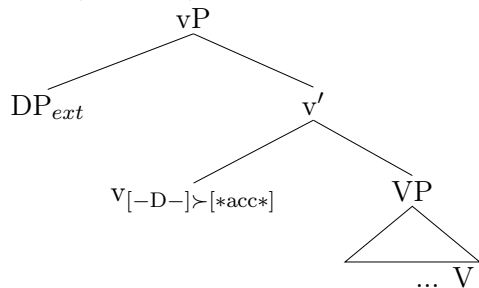
3.1.4 Death

(43) *Binding from above:*

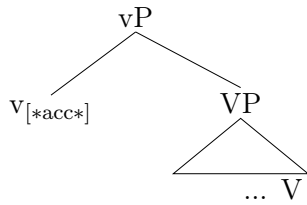
- a. *Kein Student₁ glaubt [CP dass ~~DP_{ext1}~~ gut gearbeitet wird]
no student believes that well worked is
- b. *Er hat den meisten Lehrern₁ erzählt [CP dass ~~DP_{ext1}~~ der Maria Bücher
he has the most teachers_{dat} told that the Maria_{dat} books_{nom}
geschenkt werden sollen]
given are should

(44) *Bound variable interpretation in passive derivations*

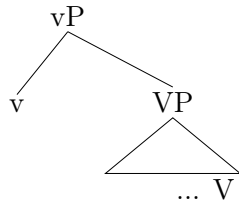
a. *Merge(DP_{ext}, v')*



b. *Remove*(DP_{ext}, v')

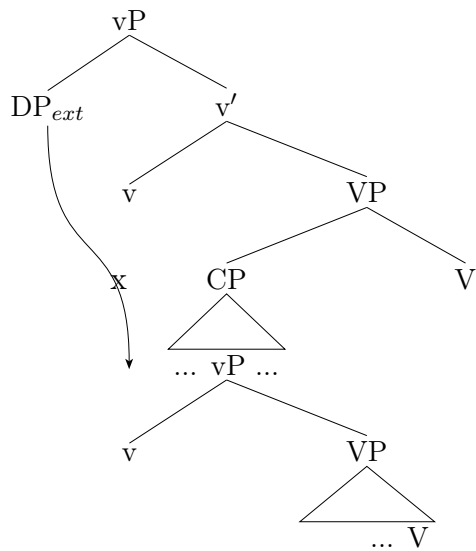


c. *Case probe removal*



d. ...

e. *Bleeding of binding of embedded DP_{ext} : Merge*(DP_{ext}, v') *in the matrix clause*

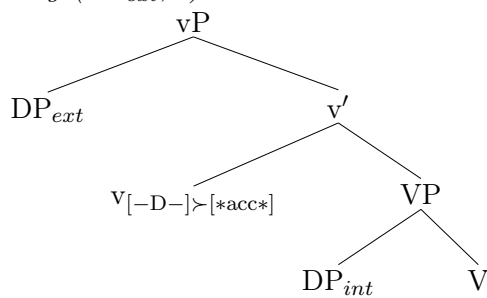


(45) *Subject raising respects Minimality:*

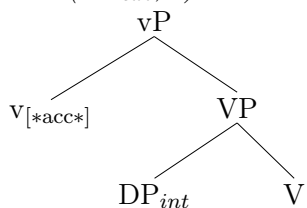
[TP John₂ was [_{vP} ~~DP_{ext, I}~~ [_{v'} v [_{VP} killed t₂]]]]

(46) *Minimality in passive derivations*

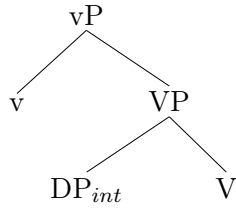
a. *Merge*(DP_{ext}, v')



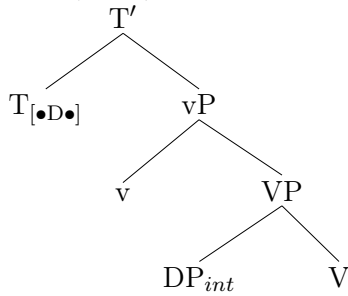
b. *Remove*(DP_{ext}, v')



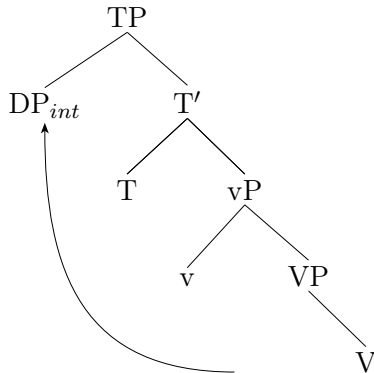
c. *Case probe removal*



d. *Merge(T, vP)*



e. *Move(DP_int, T'): Minimality respected*



3.1.5 Voice and *v*

Side remark:

It might in principle be possible to attribute the syntactic argument reduction effect to an additional Voice head that takes *vP* as a complement; however, in that case a look-ahead problem would arise (given that *v* rather than Voice assigns objective case) that can only be solved by ad-hoc stipulations (e.g., concerning the optionality of case features on *v*), or by adopting a non-local approach to syntax (such that case assignment by *v* can be effected counter-cyclically on the VoiceP level), or by invoking a theory of structural object case that does not involve *v* (cf. McFadden (2004), Schäfer (2012a), Alexiadou, Anagnostopoulou & Sevdali (2014)).

What is worse, a $[-D_2-]$ feature on Voice for removal of DP_{ext} in Spec vP would lead to a violation of the Strict Cycle Condition; see discussion of (3).

Note:

This implies that arguments for a simultaneous presence of VoiceP and *vP* in passive constructions have to be re-evaluated. This includes:

- morphological evidence based on affix order (and the Mirror Principle) in Hiaki (Harley (2013)) and Tamil (Sundaresan & McFadden (2014))
- syntactic evidence based on ellipsis of verbal categories under identity (Merchant (2013))

(47) *Reanalysis of Merchant’s data: VP ellipsis rather than vP ellipsis* (incl. lexical analysis of middles):

- a. (i) This problem was to have been looked into, but obviously nobody did
- (ii) [_{vP} v_{pass} [_{VP} look-into this problem]]
- [_{vP} v_{act} [_{VP} look-into this problem]]
- b. (i) *They sell Hyundais in Greece because Hondas don’t
- (ii) [_{vP} v_{act} [_{VP} sell Huyndais]]
- [_{vP} v_{middle} [_{VP} sell]]

Plus:

In Merchant’s vP ellipsis analysis, it is not quite clear how the two vPs can qualify as sufficiently identical in (47-a), given that DP_{ext} is a variable bound by *nobody* in one case, and a variable that is existentially bound in the other case.

Alternative:

Voice can remove DP_{ext} after all if DP_{ext} first *moves* to SpecVoice; see Murphy (2014).

3.1.6 Consequences

3.1.6.1 Double Object Constructions

Note:

There are two verbal passives in German, one with the passive auxiliary *werden* and one with the passive auxiliary *bekommen* (*kriegen*) (also cf. *get*-passives in English). The second type of passive is sometimes called “recipient passive”. It mainly shows up in double object constructions.

(48) *Recipient passive in German:*

- a. dass der Fritz der Maria das Buch geschenkt hat.
- that the Fritz_{nom} the Maria_{dat} the book_{acc} given has
- b. dass die Maria das Buch geschenkt bekommt (kriegt).
- that the Maria_{nom} the book_{acc} given gets
- c. dass der Maria das Buch geschenkt wird.
- that the Maria_{dat} the book_{nom} given is
- d. *dass der Maria das Buch geschenkt bekommt (kriegt).
- that the Maria_{dat} the book_{nom} given gets
- e. *dass die Maria das Buch geschenkt wird.
- that the Maria_{nom} the book_{acc} given is

(49) *Recipient passive without recipients:*

- a. dass man der Maria das Fahrrad geklaut hat
- that one_{nom} the Maria_{dat} the bike_{acc} stolen has
- b. dass die Maria das Fahrrad geklaut gekriegt hat
- that the Maria_{nom} the bike_{acc} stolen gotten has

(50) *Intransitive contexts with a lexical dative:*

- a. Hier wird keinem geholfen.
- here is no-one_{dat} helped
- b. ?Hier kriegt keiner geholfen.
- here gets no-one_{nom} helped
- c. *Hier wird keiner geholfen.
- here is no-one_{nom} helped

Analysis:

In typical double object constructions, *v* has *two* structural cases to assign to VP-internal DPs: dative and accusative.

- (51) *Features of v for double object contexts:*
 $v: [\bullet V \bullet] \succ [\bullet D \bullet] \succ [*dat*] \succ [*acc*]$

Proposal:

- In German, $[-D-]$ may either be inserted directly above $[*dat*]$, or it may be inserted directly above $[*acc*]$.
- In the first case, a recipient passive construction results (dative cannot be assigned anymore).
- In the second case, a standard passive construction results (accusative case cannot be assigned anymore).

- (52) *Features of passive v for double object contexts:*

- a. $v: [\bullet V \bullet] \succ [\bullet D \bullet] \succ \boxed{[-D-]} \succ [*dat*] \succ [*acc*]$
 b. $v: [\bullet V \bullet] \succ [\bullet D \bullet] \succ [*dat*] \succ \boxed{[-D-]} \succ [*acc*]$

Note:

In order to correctly determine passive auxiliary selection (*bekommen* selects a vP headed by (52-a); *werden* selects a vP headed by (52-b)), the simplest solution would be to assume that discharged features are still in some way visible from outside; this way the two vPs can be distinguished without introducing diacritics.

3.1.6.2 Intransitive Constructions

- (53) *Impersonal passive in German:*

- a. *Unergative verbs:*
 (i) Hier wird jetzt gearbeitet
 here is now worked
 (ii) Getanzt wurde nicht
 danced was not
- b. *Unaccusative verbs* (but see Primus (2010; 2011), Kiparsky (2013)):
 (i) *Hier wird jetzt gefallen
 here is now pleased
 (ii) *Es wurde angekommen
 it was arrived

Observation:

$[-D_2-]$ on *v* does not intrinsically stipulate that it is the external argument DP_{ext} that is removed as a consequence of Remove, rather than some VP-internal object DP. This effect follows from the Strict Cycle Condition: Structure-building and structure-removal can only take place at the root (cf. discussion of (3)).

Consequence:

- The sole DP argument of an unergative verb can be removed via $[-D_2-]$ on *v* since it is located in Spec_v, and execution of Remove does not violate the Strict Cycle Condition.
- The sole DP argument of an unaccusative verb cannot be removed via $[-D_2-]$ on *v* since it is located within VP, and execution of Remove would violate the Strict Cycle Condition.

3.1.7 The External Argument: Resurrection

Note:

So far, nothing has been said about what DP_{ext} looks like in passive constructions.

Null hypothesis:

DP_{ext} can be anything: A referential expression, a pronoun, a DP without phonological features, even perhaps an empty category like *pro*: Even though argument *pro* is not licensed in German (and theories that postulate it for passive constructions in this language are in danger of stipulating construction-specific empty categories), this is unproblematic if it is deleted before cyclic spell-out (assuming that this is where argumental *pro* must be licensed by some means like rich inflection).

By-phrases:

1. DP_{ext} is removed from the structure via $[-D_2-]$, and placed in the workspace.
2. DP_{ext} is remerged into the structure in the only way that is available without structure-building features, viz., as an adjunct.

Note:

The *by*-phrase does not intervene (for the purposes of the Minimality Condition) either because it is a PP (not a DP) after all; or (and this is somewhat more interesting) it is merged *after* movement of DP_{int} to either an intermediate or a final position (cf. Epstein et al. (1998); this latter option would presuppose counter-cyclic merge of adjuncts; possibly this would account for why the target position can be quite low, next to the verb).

3.1.8 A Conclusion

Modelling passive by Remove operations in a local derivational approach accounts for the variable syntactic accessibility of external arguments in passive derivations:

- Argument removal triggered by $[-D-]$ gives rise to *counter-bleeding* with operations involving structurally *lower* items.
- Argument removal triggered by $[-D-]$ gives rise to *bleeding* with operations involving structurally *higher* items.

On this approach, external arguments are indeed present in German passive constructions, but they have a very short life cycle in which they can be syntactically active: the period between discharge of $[\bullet D \bullet]$ and discharge of $[-D-]$ on one and the same head.

3.2. Applicative

3.2.1 Data and Existing Analyses

- (54) *Applikative:*
a.

$$\left\{ \begin{array}{l} \text{Obliques Objekt} \\ \text{Indirektes Objekt} \\ \text{Null} \end{array} \right\} \rightarrow \text{Objekt}$$

- b. Objekt \rightarrow sekundäres (oder obliques) Objekt

- (55) *Kinyarwanda:*

- a. Umwaana y-a-taa-ye igitabo mu maazi
Kind SP-PRÄT-werfen-ASP Buch in Wasser
'Das Kind hat das Buch ins Wasser geworfen.'

- b. Umwaana y-a-taa-ye-mo amaazi igitabo
 Kind SP-PRÄT-werfen-ASP-APPL Wasser Buch
 ‘Das Kind hat das Buch ins Wasser geworfen.’

(56) *Deutsch:*

- a. Der Mann gießt Wasser auf die Blumen
 b. Der Mann begießt die Blumen mit Wasser

Drei Analysen:

1. Baker (1988): Syntaktische Analyse.
 Applikativbildung erfolgt in der Syntax, als Resultat von Präpositionalinkorporation, die aus einem bis dahin obliquen bzw. indirekten Objekt ein direktes Objekt macht.
2. Pylkkänen (2000): Syntaktische Analyse.
 Applikativbildung erfolgt in der Syntax, als Resultat der Hinzufügung eines Appl(ikativ)-Kopfes entweder unterhalb oder oberhalb der VP (\rightarrow “tiefe” vs. “hohe” Applikative), der ein zusätzliches Argument einführt, das Eigenschaften eines direkten Objekts hat. Ein solches zusätzliches Argument kann ein anderes Argument, das sonst (d.h., ohne Applikativbildung) direktes Objekt geworden wäre, nach unten drücken; (hohe) Applikativbildung ist aber auf ein solches anderes (‘ursprüngliches’) Objekt nicht angewiesen.
3. Wunderlich (1993; 2000), Stiebels (1996): Lexikalische Analyse.
 Applikativbildung erfolgt im Lexikon, als Resultat von einer Regel der Funktionalkomposition, die zwei Argumentstrukturen zu einer zusammenfügt. In der Syntax erscheint bei Applikativbildung ein gewöhnliches ditransitives Verb.

3.2.2 Baker (1988)

3.2.2.1 Bakers Hintergrundannahmen

- (57) Hypothese der gleichförmigen Thetazuweisung (Uniformity of Theta Assignment Hypothesis, ‘UTAH’):
 Identische thematische Beziehungen zwischen Elementen werden durch identische strukturelle Beziehungen zwischen diesen Elementen im Bereich der Basisverkettung repräsentiert.

Konsequenz:

Derivationale Ableitung von GF-Veränderungsprozessen (z.B. Applikativbildung). UTAH verlangt nicht, dass die beiden involvierten Sätze bedeutungsgleich sind.

Annahmen:

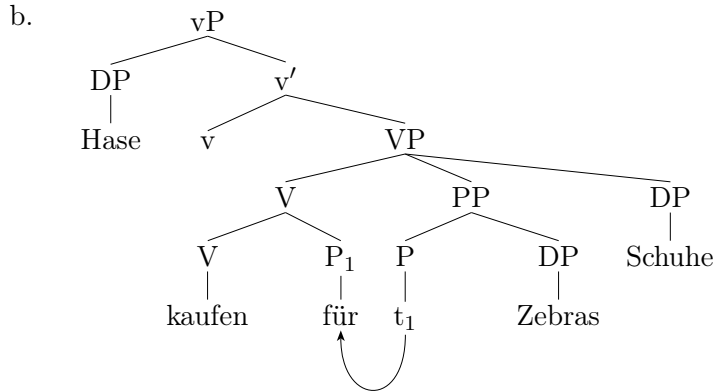
- Kopfbewegung (= Inkorporation) ist verantwortlich für GF-verändernde Prozesse.
- Kopfbewegung ist durch allgemeine Beschränkungen restringiert (z.B. die, dass nur aus Komplementen bewegt werden darf).
- Kopfbewegung öffnet Barrieren. Es gilt das Korollar der Rektionstransparenz.

- (58) Korollar der Rektionstransparenz (‘Government Transparency Corollary’):
 Eine lexikalische Kategorie, in die eine X^0 -Kategorie inkorporiert wurde, regiert alles, was das inkorporierte Elemente in seiner ursprünglichen Position regiert hat.

3.2.2.2 *Bakers syntaktische Analyse* Applikativbildung ist P-Inkorporation nach V!

(59) Chichewa:

a. Kalulu a-na-gul-ir-a mbidzi nsapato
 Hase SP-PRÄT-kaufen-für-ASP Zebras Schuhe
 ‘Der Hase kaufte Schuhe für die Zebras.’



Annahmen und Erläuterungen

1. Die Spur der inkorporierten Präposition kann dem PP-internen DP-Argument ('Zebras') keinen Kasus mehr zuweisen; die bewegte Präposition selbst kann das auch nicht.
2. Wegen des Korollars der Rektionstransparenz kann nun aber das Verb mit der adjungierten P-Kategorie strukturellen Objektkasus an die DP in der PP zuweisen.
3. Die Eigenschaften eines "direkten Objekts" sind genau die Eigenschaften, die eine DP hat, wenn sie vom Verb regiert wird und unter Adjazenz strukturellen Kasus erhält.
4. Das "ursprüngliche" direkte Objekt verliert diese Eigenschaften, weil es nicht mehr adjazent zum Verb steht; es bekommt (je nach Sprache und Varietät) sekundären Objektiv zugewiesen, oder auch einen obliquen Kasus.

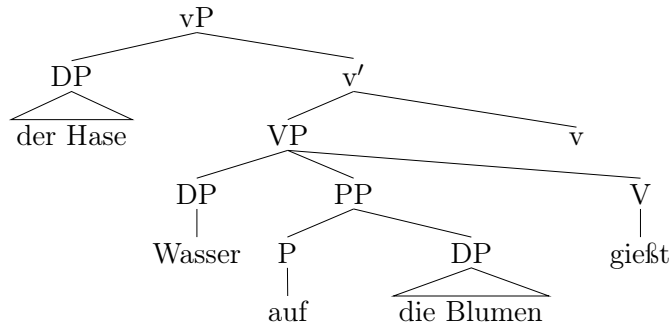
3.2.2.3 *Offene Fragen*

- Die Analyse beruht auf Dreifachverzweigung der VP. Ist dies notwendig?
 Antwort: Das sieht schon so aus; wegen UTAH braucht man identische strukturelle Beziehungen von PP und (ursprünglicher direkter Objekt-) DP.
- Wie wird der Adjazenzeffekt implementiert?
 Antwort: Unklar.
- Ist vollkommen klar, wie das ursprüngliche direkte Objekt als Resultat der Applikativbildung mit obliquem Kasus realisiert werden kann (z.B. als Konsequenz einer Reparaturoperation)?
 Antwort: Leider nicht.
- Im Zusammenhang mit der letzten Frage: Woher weiß man, welcher oblique Kasus bzw. welche Präposition gewählt werden muss für das ursprüngliche direkte Objekt? Gewählt wird offensichtlich der Kasus (bzw. die Präposition), die semantisch zur Interpretation des Objekts passt; aber hier ist einiges noch unklar.

3.2.2.4 Anwendung auf das Deutsche

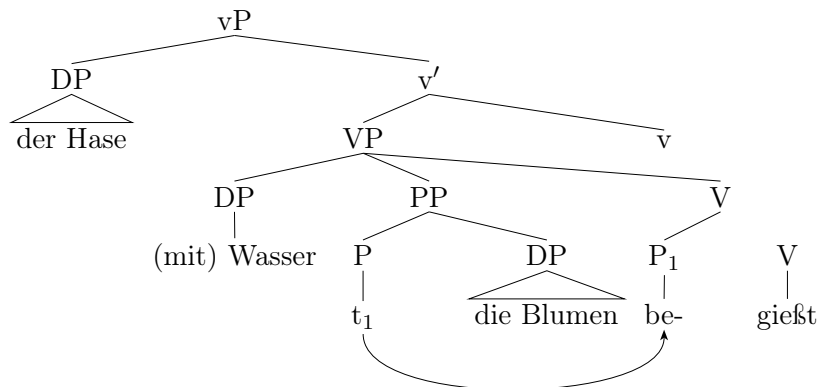
(60) Deutsch: Basisrealisierung

- a. dass der Hase Wasser auf ('bei') die Blumen gießt
 b.



(61) Deutsch: Applikativbildung

- a. dass der Hase (mit) Wasser die Blumen begießt
 b.



Bemerkung:

Deutsch hat im Mittelfeld (d.h., in der vP-Domäne) freie Wortstellung; deshalb gibt es keine obligatorischen Adjazenzeffekte. (Die unmarkierte Wortstellung ist aber schon eine, wo *die Blumen* dem *Wasser* vorangehen. Wenn man annimmt, dass Scrambling immer zu Markiertheit führt (vgl. Haider, Heck, Frey und sehr viele andere), dann würde man eigentlich eine obligatorische Argumentvertauschung erwarten hier.

Lit.: Eine Analyse der deutschen Applikativbildung im Stil von Baker (1988) findet sich bei Stechow (1992).

3.2.3 Pykkänen (2000)

3.2.3.1 Pykkänen's syntaktische Analyse Grundannahme:

- Es gibt zwei Typen von Applikativen; hohe Applikative und tiefe Applikative.
- Bei hohen Applikativen werden neue direkte Objekte durch Appl(ikativ)-Köpfe oberhalb der VP eingeführt.
- Bei tiefen Applikativen werden neue direkte Objekte durch Appl(ikativ)-Köpfe unterhalb der VP eingeführt.
- Sprachen können sich hinsichtlich der beiden Optionen unterscheiden (Chaga, Chichewa vs. Englisch, Deutsch) oder auch beide Varianten zugleich vorsehen.

3.2.3.2 Hohe Applikative: Chaga

(62) Transitive Kontexte

- a. N-ǎ-í-ly-à k-élyà
 FOC-1s-PR-eat-FV 7-food
 'He/She is eating food.'
- b. N-ǎ-í-lyì-í-à ìn-kà k-élyà
 FOC-1s-PR-eat-APPL-FV 1-wife 7-food
 'He/She is eating food for his wife.'

(63) Intransitive Kontexte

- N-ǎ-i-zrìc-í-à mbùyà
 FOX-1s-PR-eat-APPL-FV 9-friend
 'He is running for a friend.'

3.2.3.3 Tiefe Applikative: Deutsch

(64) Transitive Kontexte

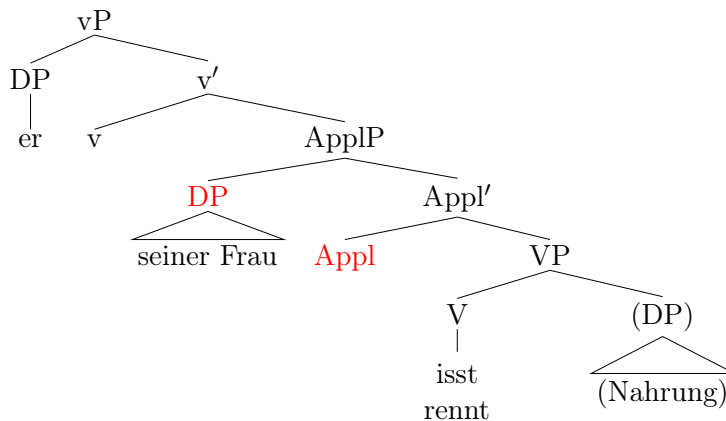
- a. Ich backe einen Kuchen
 b. Ich backe ihr einen Kuchen

(65) Intransitive Kontexte

- a. Sie rennt
 b. *Sie rennt ihm/ihn
 (Intendierte Bedeutung: Sie rennt für ihn.)

3.2.3.4 Struktur für hohe Applikative

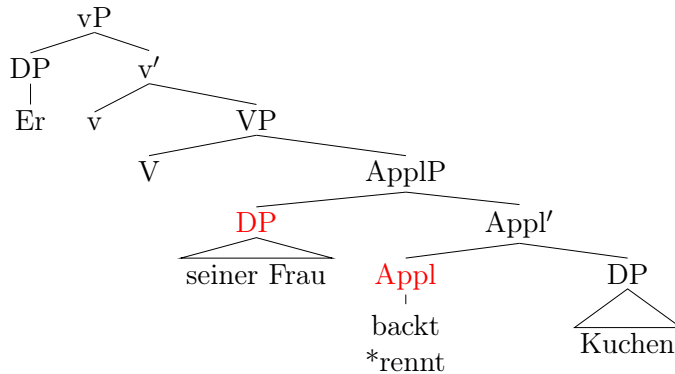
(66) Hohe Applikative



- Kopf-Bewegung findet statt von V zu Appl, und vom nunmehr komplexen Appl zu v.
- Eine etwaige VP-interne Objekt-DP hat genau dieselbe Position inne, die sie auch ohne Applikativbildung besetzen würde.
- Ob ein solches VP-interne Objekt da ist oder nicht, spielt aber für die Möglichkeit der Applikativbildung hier keine Rolle: Appl nimmt als Argument eine VP.

3.2.3.5 Struktur für tiefe Applikative

(67) Tiefe Applikative



- Kopf-Bewegung findet statt von V zu Appl, und vom nunmehr komplexen Appl zu v. (Die Wortstellung wäre in der SOV-Sprache Deutsch natürlich verändert.)
- Eine VP-interne Objekt-DP hat eine radikal andere Position inne als die, die sie ohne Applikativbildung besetzen würde.
- Ob ein solches VP-internes Objekt da ist oder nicht, spielt für die Möglichkeit der Applikativbildung eine zentrale Rolle: Appl nimmt als Argument eine DP (mit Possessum-Interpretation; das direkte Objekt ist der Possessor davon). Wenn keine Komplement-DP für Appl da ist, resultiert Ungrammatikalität.

3.2.3.6 Unergativische vs. unakkusativische Verben Vorhersage:

In Sprachen mit nur tiefen Applikativen sollten solche Konstruktionen bei unakkusativischen Verben (mit VP-internem DP-Argument DP_{int}) im Prinzip möglich sein, bei unergativischen Verben (mit VP-externem DP-Argument DP_{ext}) dagegen nicht. Diese Vorhersage scheint im Deutschen bestätigt (Grewendorf (1989)).

- (68) a. Ich glaube, dass die Kühe letztes Jahr schon gestorben sind.
 b. Ich glaube, dass die Kühe letztes Jahr noch gelebt haben.
- (69) a. Ich glaube, dass die Kühe dem Bauern letztes Jahr schon gestorben sind.
 b. *Ich glaube, dass die Kühe dem Bauern letztes Jahr noch gelebt haben.

3.2.3.7 Generelles

- Pyllkänens Analyse ist nicht strikt syntaktisch, weil es in der Syntax keinerlei Prozess einer Objektpromotion gibt; an keinem Punkt der syntaktischen Derivation ist das direkte Objekt in der Applikativkonstruktion etwas anderes als gerade dies.
- In gewisser Weise entspricht die Analyse fast mehr der lexikalischen Analyse von Wunderlich: Es wird ein Argument hinzugefügt, im einen Fall durch Appl, im anderen Fall durch den lexikalischen Prozess der Funktionskomposition.
- Zunächst einmal merkwürdig an Pyllkänens Analyse ist vielleicht, dass die Beziehung von lexikalischem Verb (V) und seinem ('ursprünglichen') Objekt durch Applikativbildung komplett zerstört wird (und nicht nur modifiziert, wie bei Baker). Dies findet sich aber so ganz ähnlich auch bei Wunderlich.

3.2.4 Wunderlich (1993)

3.2.4.1 Wunderlichs lexikalische Analyse

- (70) a. dass Maria Kaffee über Fritz gießt
b. dass Maria Fritz mit Kaffee übergießt
- (71) a. dass der Hase Wasser bei die Blumen gießt
b. dass der Hase die Blumen mit Wasser begießt

Annahme:

Ein Verb wie *gießen* hat ein (obligatorisches) direktionales Argument, zusätzlich zu dem Agens- (Wer gießt?) und dem Thema-Argument (Was wird gegossen?).

- (72) Lexikoneinträge bei Wunderlich:
- a. *gießen*: $\lambda P \lambda y \lambda x \text{ CAUSE } (x, P(y)) \in D_{\langle \langle e, t \rangle, \langle e, \langle e, t \rangle \rangle \rangle}$
[+dir] [-obl]
- b. *über_{dir}*: $\lambda v \lambda z \text{ CHANGE } (\text{ÜBER } (z, v)) \in D_{\langle e, \langle e, t \rangle \rangle}$

3.2.4.2 Grundkonstruktion: Funktionale Applikation

- (73) Grundkonstruktion:
dass Maria Kaffee über Fritz gießt

Annahme:

gießen ist ein dreistelliges Verb, das zunächst ein direktionales PP-Argument (vom Typ $\langle e, t \rangle$) nimmt und dann zwei DP-Argumente (vom Typ e). Die Kombination der sprachlichen Ausdrücke geschieht nur durch funktionale Applikation.

- (74) *über Fritz*
- a. *über_{dir}*:
 $\lambda v \lambda z \text{ CHANGE } (\text{ÜBER } (z, v)) \in D_{\langle e, \langle e, t \rangle \rangle}$
- b. *Fritz*:
Fritz $\in D_e$
- c. *über Fritz*:
 $\lambda v \lambda z \text{ CHANGE } (\text{ÜBER } (z, v)) (\text{Fritz}) =$
 $\lambda z \text{ CHANGE } (\text{ÜBER } (z, \text{Fritz}))$
(‘die Menge der Dinge, so dass es einen Wechsel gibt, so dass sie über Fritz sind’)

- (75) dass Maria Kaffee über Fritz gießt

- (76) *über Fritz gießen*
- a. *gießen*:
 $\lambda P \lambda y \lambda x \text{ CAUSE } (x, P(y)) \in D_{\langle \langle e, t \rangle, \langle e, \langle e, t \rangle \rangle \rangle}^1$
- b. *über Fritz*:
 $\lambda z \text{ CHANGE } (\text{ÜBER } (z, \text{Fritz})) \in D_{\langle e, t \rangle}$

¹ Vereinfachung; für die Argumentation irrelevante zusätzliche semantische Aspekte sind ausgeblendet.

- c. *über Fritz gießen*:
 $\lambda P \lambda y \lambda x \text{ CAUSE } (x, P(y)) (\lambda z \text{ CHANGE } (\text{ÜBER } (z, \text{Fritz}))) =$
 $\lambda y \lambda x \text{ CAUSE } (x, \lambda z \text{ CHANGE } (\text{ÜBER } (z, \text{Fritz}))(y)) =$
 $\lambda y \lambda x \text{ CAUSE } (x, \text{CHANGE } (\text{ÜBER } (y, \text{Fritz})))$

Annahme:

Das am weitesten links (bzw. außen) stehende λ -Präfix (mit Abstraktion über einer Individuenvariable) entspricht dem Erstverketter des (nunmehr komplexen) Prädikats und wird als direktes Objekt (mit, im Deutschen, Akkusativ) realisiert.

3.2.4.3 Applikativkonstruktion: Funktionalkomposition

- (77) Applikativkonstruktion:
dass Maria Fritz mit Kaffee übergießt
- (78) Ergebnis der Funktionalkomposition als lexikalischer Operation: *über-gießen*
 $\lambda z \lambda y \lambda x \text{ CAUSE } (x, \text{CHANGE } (\text{ÜBER } (y, z)))$

Frage:

Wie kommt man von (79-a) und (79-b) systematisch per Funktionalkomposition zu (78)?

- (79) Lexikoneinträge bei Wunderlich:
- a. *gießen*: $\lambda P \lambda y \lambda x \text{ CAUSE } (x, P(y)) \in D_{\langle \langle e, t \rangle, \langle e, \langle e, t \rangle \rangle \rangle}$
 $[+dir] [-obl]$
- b. *über_{dir}*: $\lambda v \lambda u \text{ CHANGE } (\text{ÜBER } (u, v)) \in D_{\langle e, \langle e, t \rangle \rangle}$
- (80) Funktionalkomposition:
 $G \circ F =_{\text{def}} \{ \langle x, z \rangle : \text{Für beliebige } y, \langle x, y \rangle \in F \text{ und } \langle y, z \rangle \in G \}$
- (81) Kategorialgrammatische Notation der Funktionalkomposition (Steedman (2000)):
 $X/Y:f, Y/Z:g \Rightarrow X/Z: \lambda z.f(g(z))$
- (82) Applikativkonstruktion:
dass Maria Fritz mit Kaffee übergießt
- (83) a. *gießen*: $\lambda P \lambda y \lambda x \text{ CAUSE } (x, P(y)) \in D_{\langle \langle e, t \rangle, \langle e, \langle e, t \rangle \rangle \rangle}$
 $[+dir] [-obl]$
b. *über_{dir}*: $\lambda v \lambda u \text{ CHANGE } (\text{ÜBER } (u, v)) \in D_{\langle e, \langle e, t \rangle \rangle}$

Beobachtung:

Die beiden Ausdrücke können nicht direkt durch funktionale Applikation verbunden werden, dafür aber durch funktionale Komposition.

- (84) *über_{dir}(g)-gießen(f)*: $\lambda z.f(g(z))$
- a. $\lambda z. \lambda P \lambda y \lambda x \text{ CAUSE } (x, P(y)) (\lambda v \lambda u \text{ CHANGE } (\text{ÜBER } (u, v))(z)) =$
- b. $\lambda z. \lambda P \lambda y \lambda x \text{ CAUSE } (x, P(y)) (\lambda u \text{ CHANGE } (\text{ÜBER } (u, z))) =$
- c. $\lambda z \lambda y \lambda x \text{ CAUSE } (x, \lambda u \text{ CHANGE } (\text{ÜBER } (u, z))(y)) =$
- d. $\lambda z \lambda y \lambda x \text{ CAUSE } (x, \text{CHANGE } (\text{ÜBER } (y, z))) =$

Bemerkung:

Nunmehr kodiert das am weitesten links stehende λ -Präfix mit Abstraktion über eine Individuenvariable den Erstverketter, also das Akkusativ-markierte Argument. Dies ist nicht mehr die höhere Argumentposition von *über_{dir}*, sondern die tiefere.

3.2.4.4 *Argumenterweiterung* In manchen Fällen muss ein Verb vor der Applikativbildung ein λP -Argument (Typ $\langle e,t \rangle$) hinzugefügt bekommen, damit Funktionalkomposition gefüttert werden kann.

(85) Argumenterweiterung (ARG):
 $\lambda s \text{ VERB}(\dots)(s) \Rightarrow \lambda P \dots \lambda s \text{ VERB}(\dots)(s) \ \& \ P(s)$, was abgekürzt werden kann als $\text{VERB}(\dots) \ \& \ P(s)$.

(86) a. Sie wandert.
 b. Sie wandert durch Polen.
 c. Sie durchwandert Polen.

(87) a. $\lambda x \text{ WANDERN}(x)$
 b. $\lambda P \lambda x \text{ WANDERN}(x) \ \& \ P(x)$

3.2.5 Recapitulation

(88) *Applicatives in German:*

- a. Wir laden Heu auf den Wagen
 w_{nom} load hay $_{acc}$ onto the wagon
 b. Wir beladen den Wagen mit Heu
 w_{nom} load the wagon $_{acc}$ with hay

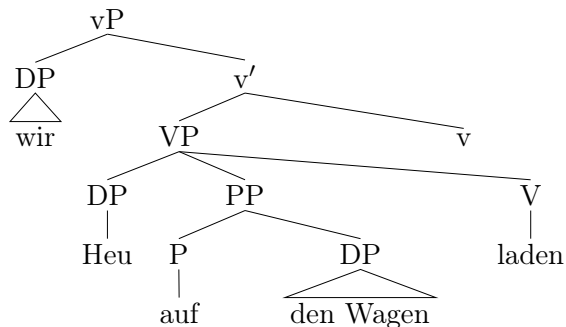
Two syntactic approaches:

(i) Baker (1988), Stechow (1992): P incorporation requires and permits accusative case assignment to DP in PP; the former direct object cannot be assigned accusative anymore and becomes oblique; cf. (89), (90).

(ii) Pyllkänen (2000): An Appl head introduces a further argument.

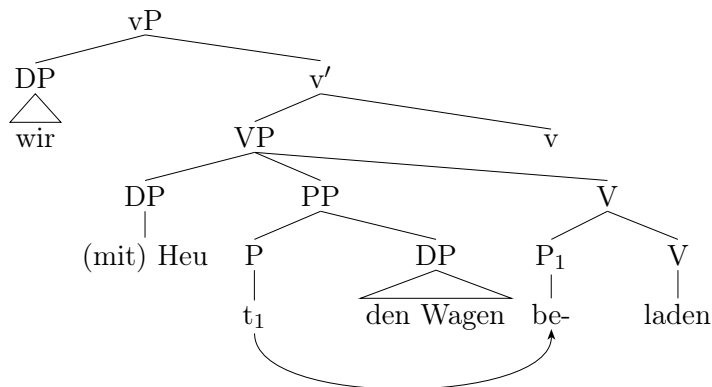
(89) *Applicatives by incorporation: base structure*

- a. dass wir Heu auf ('bei') den Wagen laden
 b.



(90) *Applicatives by incorporation: derived structure*

- a. dass wir (mit) Heu den Wagen beladen
 b.



Problem:

Neither analysis can straightforwardly capture the argument demotion effect taking place with the theme DP.

3.2.6 A New Analysis

Hypothesis:

Argument demotion effects with German applicatives are due to a Remove operation that accompanies a Baker-style derivation via P incorporation.

(91) *Proposal:*

- a. *laden*: [\bullet P \bullet] \succ [\bullet D \bullet]
- b. P can be *auf* or *be*; the latter is an affix that moves to V in the syntax.
- c. A Remove feature [$-D_2-$] can optionally be added to V in the numeration: [\bullet P \bullet] \succ [\bullet D \bullet] \succ [$-D_2-$]
- d. As a consequence, the theme argument (*Heu*) is removed from the representation soon after it has been introduced by Merge as a specifier of V (it can subsequently be reintroduced as an adjunct).
- e. P incorporation makes assignment of case to the goal argument DP by P impossible; hence, this DP needs case from elsewhere. Since the theme DP has been removed, *v* is free to assign structural accusative case to the goal DP.

(92) *Optionality of theme argument as evidence for [$-D_2-$]:*

- a. ??Wir laden heute Heu
we load today hay
- b. *Wir laden heute auf den Wagen
we load today onto the wagon
- c. Wir beladen den Wagen
we load the wagon
- d. *Wir beladen mit Heu
we load with hay

Question:

How can the presence of *be* as the P head be tied to the presence of [$-D_2-$] on V?

Answer:

- Both operations are optional. However, if *be* is the P head and [$-D_2-$] does not show up, the second DP remains without case, and ungrammaticality arises; (93-a). On the other hand, if *auf* is the P head and [$-D_2-$] is instantiated on V in the numeration, v_{trans} will not find an argument to assign its accusative case feature to, and ungrammaticality results again if this case feature can fact not be deleted anymore; (93-b). (Alternative approach: selection.)

(93) *Blocked combinations:*

- a. *dass wir Heu den Wagen beladen
that we_{nom} hay_{acc} the wagon_{acc} load
- b. *dass wir (mit Heu) auf den Wagen laden
that we_{nom} (with hay) onto the wagon load

Prediction:

German applicatives are expected to exhibit short life cycle effects, with downward accessibility and upward inaccessibility.

- (94) *Principle A: no evidence:*
- a. Wir setzen die Spielfigur₁ auf sich₁
 we_{nom} put the pawn_{acc} onto REFL
 - b. *Wir besetzen $\overline{DP_{int1}}$ sich₁ (mit der Spielfigur)
 we_{acc} put REFL (with the pawn)
 - c. ?Wir besetzen die Spielfigur₁ mit sich₁
 we_{nom} put the pawn_{acc} onto REFL
- (95) *Control into secondary predicates: evidence for downward accessibility:*
- a. Man giesst das Wasser₁ dann [_{SC} PRO₁ heiss] über die gut gekühlten Beeren
 one_{nom} pours the water_{acc} then hot over the well chilled berries
 - b. Man begiesst $\overline{DP_{int1}}$ dann die gut gekühlten Beeren [_{SC} PRO₁ heiss] (mit
 one_{nom} pours then the well chilled berries_{acc} hot (with
dem Wasser)
the water)
- (96) *Unavailability of binding: evidence for upward inaccessibility:*
- a. *Kein Student₁ will [_{CP} dass man $\overline{DP_{int1}}$ den Wagen belädt]
no student wants that one the wagon loads
 - b. Kein Student₁ will [_{CP} dass man $\overline{DP_{int1}}$ den Wagen mit ihm₁ belädt]
no student wants that one the wagon with him loads

3.3. Antipassive

3.3.1 Introduction

Generalizations (Baker (1988), Dixon (1994), Bittner & Hale (1996)):

- Antipassive involves demotion of a direct object, and intransitivization.
- Antipassive typically has some morphological reflex.
- Antipassive occurs mostly in ergative systems, and leads to ergative absorption. As such, it can permit movement of an external argument DP that would otherwise be blocked because of a general ban on ergative displacement.

(97) *Antipassive in Chukchee:*

- a. Yemronə-na qərir-ərkən-in ekək
Yemron-ERG₁ suchen-PRS-3.SG₁.3.SG₂ Sohn-ABS₂
‘Yemron sucht seinen Sohn.’
- b. Yemron ine-lqərir-ərkən (akka-gtə)
Yemron-ABS₁ APASS-suchen-PRS.3SG₁ (Sohn-DAT)
‘Yemron sucht (nach seinem Sohn).’

(98) *Antipassiv-Alternation in Inuit:*

- a. Juuna-p Anna kunip-p-a-a
Juuna-ERG Anna-ABS küss-IND-[+trans]-3SG-3SG
‘Juuna küsste Anna.’
- b. Juuna (Anna-mik) kunis-si-v-u-q
Juuna-ABS (Anna-INS) küss-APASS-IND-[-trans]-3SG
‘Juuna küsst Anna.’

3.3.2 Classical Analyses

3.3.2.1 Relational Grammar

Beobachtung:

Antipassiv ist ein Problem für die Relationale Grammatik.

(99) *Gesetz der motivierten Chomage* (Motivated Chomage Law):

Nur die Chomeur-Bedingung kann die Chomeur-Relation lizensieren.

(100) *Chomeur-Bedingung:*

Wenn eine DP α auf Stratum X eine grammatische Relation Γ hat und eine DP β auf Stratum X+1 die grammatische Relation Γ hat, dann ist α auf X+1 ein Chomeur.

(101) *Gesetz der Umordnung* (Reranking Law):

Eine DP kann sich auf der Hierarchie der grammatischen Relationen nur nach oben bewegen.

Konklusion:

Antipassiv ist zunächst einmal unerwartet. Ein Objekt sollte nur dann oblique werden können, wenn es durch ein promoviertes anderes Element verdrängt wird. Lösungsmöglichkeiten: Eines der beiden Gesetze wird entsprechend gelockert. (Postals (1977) Vorschlag: A \rightarrow O, altes O wird Chomeur. Ursprüngliches A, jetzt O, wird dann zu S promoviert.)

3.3.2.2 Bittner & Hale (1996) Analysis:

1. The APASS morpheme is an N head adjoined to V; it is a pseudo coargument for Arg_{int} , which accordingly is a Case-bound KP.
2. KP_{int} is Case-bound by V and gets DAT rather than ACC case for the simple reason that the pseudo coargument is an N rather than a D.
3. Arg_{ext} cannot be Case-bound anymore in this configuration because there is no coargument (or close pseudo coargument) that might act as a Case competitor (i.e., be K-less – the Case-bound Arg_{int} certainly is not).
4. Arg_{ext} therefore must be DP and gets default case from C.

3.3.2.3 Baker (1988)

Annahme:

Antipassiv ist ein Spezialfall von N-Inkorporation. Das Antipassiv-Morphem *ist* das Objekt; es wird ins Verb inkorporiert. Wenn eine oblique Form auftritt, ist das einfach ein Fall von Verdopplung (genau wie in der Passiv-Analyse von Baker et al. (1989)).

(102) [S [NP Junge] [VP [V [N APASS-1] [V seh]] [NP [N t₁]] [N/PP₁ [P OBL] [N John]]]]

3.3.3 Antipassive in German

Question:

Is there an antipassive in German?

Answer (Müller (2011)):

Yes. However, there is no verb form that could adequately realize it, so it is difficult to identify: Antipassive underlies so-called “verbless directives” (Jacobs (2008), Wilder (2008)).

(103) *Antipassive in German:*

- a. Her mit {dem Geld / dem gestohlenen Geld / dem Geld, das du
 PRT with the money_{dat} the stolen money_{dat} the money_{dat} that you
 mir gestohlen hast}!
 me stolen have
- b. In den Müll mit {diesen Klamotten / diesen geschmacklosen Klamotten /
 into the garbage with these clothes these tasteless clothes
 diesen Klamotten von H&M}!
 these clothes from H&M

Jacobs' observation:

It is impossible to derive (103) by simple deletion.

(104) *Ungrammatical sources:*

- a. *Gib (geh, trag, bring, ...) her mit dem Geld!
 give (go, carry, bring, ...) PRT with the money
- b. *Schmeiß (...) in den Müll mit diesen Klamotten!
 throw into the garbage with these clothes

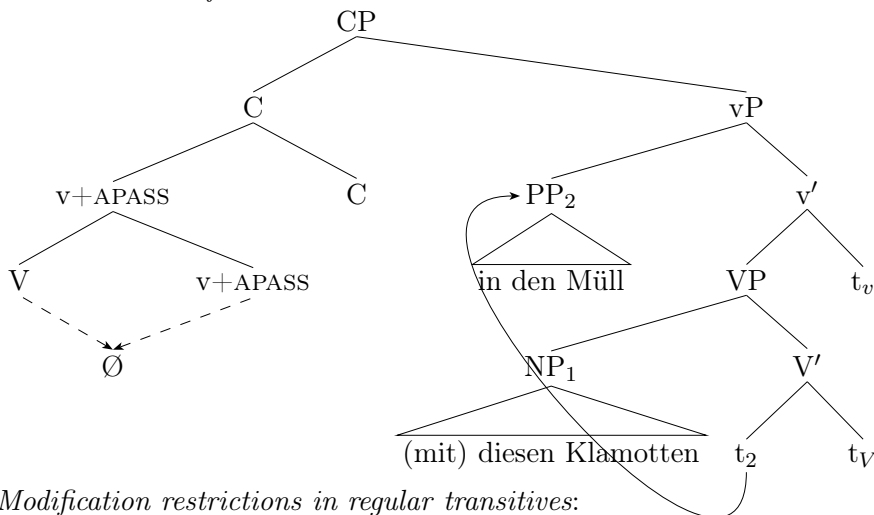
Analysis in Müller (2011):

- v_{antipass} absorbs accusative case; the theme argument must then be realized as an oblique (or not at all).
- v can then not take an external argument anymore (because of Burzio's generalization).
- There is no vocabulary item that can realize v_{antipass} in German, so the verb must be non-overt.

Observation (Jacobs (2006)):

Modification restrictions in verbless directives are identical to those of regular transitive clauses. This follows directly under the antipassive analysis.

(105) *A new structure for verbless directives:*



(106) *Modification restrictions in regular transitives:*

- a. Schmeiß den Krempel weg!
 throw the stuff_{acc} away
- b. Schmeiß den Krempel schnell weg!
 throw the stuff quickly away
- c. *Schmeiß den Krempel sorgfältig weg!
 throw the stuff carefully away

(107) *Modification restrictions in verbless directives:*

- a. Weg mit dem Krempel!
away with the stuff
- b. Schnell weg mit dem Krempel!
quickly away with the stuff
- c. *Sorgfältig weg mit dem Krempel!
carefully away with the stuff

Problem:

This analysis does not yet fully capture the demotion effect (as in the similar case of applicatives, see above); and it captures the word order reversal only by stipulation (Specv must be filled here).

(108) *Optional absence of the demoted theme argument:*

- a. (i) Weg mit dem Krempel!
away with the stuff
- (ii) Weg!
away
- (iii) *Mit dem Krempel!
with the stuff
- b. (i) In den Müll mit diesen Klamotten!
into the garbage with these clothes
- (ii) In den Müll!
into the garbage
- (iii) *Mit diesen Klamotten!
with these clothes

Solution:

(i) Theme argument demotion in German antipassive constructions is brought about by a Remove feature.

(ii) This [-D₂-] feature must be located on V rather than on v, because of the Strict Cycle Condition (again, cf. discussion of (3)).

(iii) A v selecting a simple transitive V does not have an accusative case feature (in contrast to a v selecting a ditransitive V, see discussion of applicatives above).

(iv) There is no vocabulary item for a v-V complex thus formed (i.e., antipassives in German must be “verbless”).

Prediction:

German antipassives are expected to exhibit short life cycle effects, with downward accessibility and upward inaccessibility of DP_{int}.

(109) *Downward accessibility, secondary predicates:*

- a. (i) Schmeiß das Buch₁ [PRO₁ ungelesen] in den Müll!
throw the book_{acc} unread into the garbage
- (ii) DP_{int1} [PRO₁ ungelesen] in den Müll (mit dem Buch₁)!
unread into the garbage (with the book)
- (iii) *Ich arbeite (ungelesen) mit dem Buch (ungelesen)
I work (unread) with the book (unread)
- b. (i) DP_{int1} [PRO₁ kalt] auf den Teller (mit dem Fleisch₁)!
cold onto the plate (with the meat)

- (ii) DP_{int₁} [PRO₁ ungeöffnet in den See] (mit dem Paket₁)!
unopened into the lake (with the parcel)
- (iii) DP_{int₁} [PRO₁ mit Umschlag in die Tasche] (mit dem Buch)!
with jacket into the bag (with the book)

(110) *Downward accessibility, bound variable pronouns:*

- a. Bringe/Tue jeden Spieler₁ in sein₁ Versteck!
bring/put every player into his hiding place
- b. DP_{int₁} in sein₁ Versteck mit jedem Spieler₁!
into his hiding place with every player
- c. ?*Ich gehe in sein₁ Versteck mit jedem Spieler₁
I go into his hiding place with every player
- d. ?Ich gehe in sein₂/das Versteck mit jedem Spieler₁
I go into his/the hiding place with every player

Note:

As for upward inaccessibility, most relevant cases are independently excluded because there is very little space in a verbless directive.

(111) *Upward inaccessibility, bound variable pronouns*

- a. Wirf keinem Studenten₁ seine₁ Flaschen in den Biomüll!
throw no student_{dat} his bottles_{acc} into the organic garbage
- b. DP_{int} in den Biomüll mit seinen₁ Flaschen!
into the organic garbage with his bottles
- c. *Keinem Studenten₁ ~~DP_{int}~~ in den Biomüll!
no student_{dat} into the organic garbage
- d. *Keinem Studenten₁ in den Biomüll mit seinen₁ Flaschen!
no student_{dat} into the organic garbage with his bottles

(112) *Upward inaccessibility, criterial movement*

- a. ?Ich denke, ~~DP_{int}~~ in den Müll mit den Klamotten
I think into the garbage with the clothes
- b. ?Ich denke, ~~DP_{int}~~ in den Müll
I think into the garbage

(113) *Upward inaccessibility, anaphoric binding:*

- a. Er₁ schmeiße sich₁ in die Büsche!
he throw_{subj} REFL into the bushes
- b. Schmeiß (du) ihn₁ in die Büsche!
throw (you_{nom}) him_{acc} into the bushes
- c. *DP_{ext₁} ~~DP_{int₁}~~ in die Büsche mit sich₁!
into the bushes with REFL
- d. DP_{ext₁} ~~DP_{int₁}~~ in die Büsche mit ihm₁!
into the bushes with him

Note:

DP_{int} in (113-c) is not accessible to a co-indexed DP_{ext} that is later introduced by v (given that Remove is triggered by V).

4. Removal of YP: Deletion

Note:

What follows is taken from the Koselleck proposal; it's not part of the original lectures (where ellipsis was covered without a handout).

Es gibt zwei grundsätzlich verschiedene Zugänge zu Tilgungskonstruktionen wie z.B. Sluicing. Auf der einen Seite ist argumentiert worden, dass Tilgung ein rein phonologisches Phänomen ist, das die syntaktische Struktur des elidierten Bereichs intakt lässt (Ross (1969), Lasnik (1999), Hartmann (2000), Merchant (2001; 2004), Aelbrecht (2010), Craenenbroek (2010)). Auf der anderen Seite sind Analysen vorgeschlagen worden, denenzufolge der elidierte Bereich syntaktisch entweder gar nicht repräsentiert ist (Ginzburg & Sag (2000), Culicover & Jackendoff (2005)), oder aber als eine leere Kategorie ohne jede Struktur erscheint (Wasow (1972), Chung et al. (1995)). Es gibt nun syntaktische Evidenz für beide Analysen, und damit für konfligierende Repräsentationen: Wie Merchant zeigt, sprechen für die strukturelle syntaktische Repräsentation elidierten Materials u.a. Kasus-Übereinstimmungseffekte (*Karl will jemandem helfen, aber er weiß nicht *wen/wem*; weiterhin sprachübergreifende Korrelationen von Sluicing und P-Stranden in anderen Kontexten (**Sie hat mit jemandem geredet, aber ich weiß nicht wem, *Wem hat sie mit geredet?*); sowie die Aktivität von Inselbeschränkungen bei Tilgungsoperationen wie z.B. VP-Ellipse. Auf der anderen Seite legt das Fehlen von Prinzip C-Effekten bei Sluicing nahe, dass im elidierten Bereich keine syntaktische Struktur vorliegt (Fiengo & May (1994), Elliott & Murphy (2015): *Fritz₁ wurde eingesperrt, aber er₁ weiß nicht warum* vs. **Er₁ weiß nicht, warum Fritz₁ eingesperrt wurde*); dasselbe gilt für die generelle Unmöglichkeit von overtten C-Elementen (*dass* oder *V/2*) in eingebetteten und Matrix-Sluicing-Konstruktionen (**... warum dass, *Wem hat?*); für die Außerkraftsetzung von Kasusübereinstimmungseffekten in Code-Switching-Kontexten (González-Vilbazo & Ramos (2012)); und nicht zuletzt für die Möglichkeit, bei Sluicing Inselbeschränkungen zu umgehen (Ross (1969), Lasnik (1999), Merchant (2001), vs. Abels (2011)). Es erscheint daher auch bei Sluicing vielversprechend, die konfligierende Evidenz bzgl. der syntaktischen Zugänglichkeit des elidierten Materials mit Strukturabbau durch Remove anzugehen; die dann notwendige Abfolge von Operationen, bei der strukturelle Entfernung der TP durch [-T₂-] auf C der Bewegung einer (oder mehrerer) W-Phrase(n) nach SpecC folgt, steht im Einklang mit dem strikten Zyklus.

Allgemein legt das Konzept des Strukturabbaus eine Reevaluation der Analyse sämtlicher Tilgungsphänomene nahe – VP-Ellipse, Gapping, Pseudo-Gapping, Right Node Raising, Topik-Drop (und Wh-Drop; Bayer (2010)), etc.).

5. Removal of Y: Oscillation

Relevant phenomena:

- DP/NP oscillation (Bošković (2008; 2012) on Slavic languages, Arkadiev & Testelets (2014) on conflicting structure assignments to nominal projections in Circassian (Adyghe and Kabardian), Kornfilt (2013) on similar phenomena in Turkish)
- DP/CP oscillation: free relative clauses (Groos & van Riemsdijk (1981), Vogel (2001), Riemsdijk (2006))

Case study:

Circassian Case-marker Omission via Structure Removal

5.1. Data

Observation (Arkadiev & Testelets (2014)):

Differential marking in the ergative encoding systems of Circassian (Adyghe and Kabardian) is

sensitive to scale effects (Hale (1972), Silverstein (1976), Aissen (2003)) based on specificity, but it is *not* correlated with grammatical function or case:

- The absolutive marker *r* is absent with non-specific indefinite nominals, and present with specific indefinite or definite nominals.
- The ergative marker *m* is absent with non-specific indefinite nominals, and present with specific indefinite or definite nominals.

(114) *Definiteness scale:*
 Pro(noun) > Name (PN) > Def(inite) > Indefinite Specific (Spec) > NonSpecific (NSpec)

(115) *Absolutive nominals* (Adyghe):

- a. Pšaše-r ma-k^we
 girl-ABS DYN-go
 ‘The girl is going.’
- b. Pšaše-Ø ma-k^we
 girl DYN-go
 ‘A girl is going.’

(116) *Ergative nominals* (Adyghe):

- a. Pšaše-m žane-(r) ə-də-ɸ
 girl-ERG dress-(ABS) 3.SG.ERG-sew-PST
 ‘The/a girl made a/the dress.’
- b. *Pšaše-Ø žane-(r) ə-də-ɸ
 girl dress-(ABS) 3.SG.ERG-sew-PST
 ‘The/a girl made a/the dress.’
- c. ʔaze=deɸ^wə w-jə-ɸe-χ^wəž’ə-š’t
 doctor-good 2.SG.ABS-3.SG.ERG-CAUS-recover-FUT
 ‘A good doctor will [be able to] cure you.’

Note:

Harmonic alignment plus local conjunction of (definiteness and case/grammatical function) scales (as in Aissen (2003)) will not produce the right results: What is prototypical, unmarked for an object (or absolutive argument) should be atypical, marked for a subject (or ergative argument). (Also see de Hoop & Malchukov (2008) for related observations.)

(117) *Scales:*

- a. *GF scale:*
 Su > Obj
- b. *Definiteness scale:*
 Pro(noun) > Name (PN) > Def(inite) > Indefinite Specific (Spec) > NonSpecific (NSpec)

(118) *Harmonic Alignment* (Prince & Smolensky (2004)):

Suppose given a binary dimension D_1 with a scale $X > Y$ on its elements $\{X, Y\}$, and another dimension D_2 with a scale $a > b > \dots > z$ on its elements $\{a, b, \dots, z\}$. The *harmonic alignment* of D_1 and D_2 is the pair of Harmony scales H_X, H_Y :

- a. $H_X: X/a \succ X/b \succ \dots \succ X/z$
- b. $H_Y: Y/z \succ \dots \succ Y/b \succ Y/a$

The *constraint alignment* is the pair of constraint hierarchies C_X, C_Y :

- a. $C_X: *X/z \gg \dots \gg *X/b \gg *X/a$
- b. $C_Y: *Y/a \gg *Y/b \gg \dots \gg *Y/z$

- (119) *Harmony scales:*
- a. Obj/NSpec \succ Obj/Spec \succ Obj/Def \succ Obj/PN \succ Obj/Pro
 - b. Su/Pro \succ Su/PN \succ Su/Def \succ Su/Spec \succ Su/NSpec
- (120) *Constraint hierarchies:*
- a. *Obj/Pro \gg ... \gg *Obj/Spec \gg *Obj/NSpec
 - b. *Su/NSpec \gg *Su/Spec \gg ... \gg *Su/Pro
- (121) *Other constraints:*
- a. MAX(Case):
Preserve case features.
 - b. *Case:
Avoid case features.

Note:

MAX(Case) can be *locally conjoined* (Smolensky (2006)) with a constraint hierarchy derived from harmonic alignment; *Case cannot be conjoined with a constraint hierarchy. (This would be exactly as in Aissen (2003).)

- (122) *Local conjunction:*
- a. *Obj/Pro&MAX(Case)
 \gg ...
 \gg *Obj/Spec&MAX(Case)
 \gg *Obj/NSpec&MAX(Case)
 - b. *Su/NSpec&MAX(Case)
 \gg *Su/Spec&MAX(Case)
 \gg ...
 \gg *Su/Pro&MAX(Case)

Problem:

Interspersing *Case at some point in the hierarchies makes the correct predictions for absolutive-marked objects, but radically wrong predictions for ergative-marked subjects: If *Case outranks *Su/NSpec&MAX(Case) so as to trigger case marker deletion with non-specific ergative subjects, it will automatically trigger case marker deletion with all other kinds of ergative subjects, contrary to fact.

- (123) *Rankings:*
- a. *Obj/Pro&MAX(Case)
 \gg ...
 \gg *Obj/Spec&MAX(Case)
*Case
 \gg *Obj/NSpec&MAX(Case)
 - b. *Case \gg
*Su/NSpec&MAX(Case)
 \gg *Su/Spec&MAX(Case)
 \gg ...
 \gg *Su/Pro&MAX(Case)

5.2. DP vs. NP

Proposal (Arkadiev & Testelets (2014)):

The case-less arguments instantiate a kind of *pseudo-incorporation*. A pseudo-incorporated nominal can be complex (and is not visibly incorporated into the verb); it qualifies as an NP, whereas case-

bearing nominals must be DPs.

(124) *Properties of pseudo-incorporation related to NP status:*

- a. phrasal, not X^0
- b. lack of case-marking
- c. number neutrality
- d. semantic effects of incorporation
- e. *V-adjacency*
- f. scope inertness of quantifiers
- g. non-specificity
- h. *inability to antecede pronouns*
- i. *valency reduction (de-transitivization) of the verb*
- j. impossible with pronouns
- k. no articles or other kinds of determiners

Problem:

Case-less nominals in Circassian do not show *all* the properties of pseudo-incorporation; they also show some (three) properties that are expected if the nominals are DPs rather than NPs. (The following data are from Kabardian ((125-ab)) and from Adyghe ((125-c-ii)).)

(125) *Displacement (no V-adjacency), Antecedence of pronouns, Maintaining valency:*

- a. [DP₁ txəλ] mə twəč'anə-m t₁ š'-j-e-š'ex^w-zəpət
 book this shop-OBL LOC-3.SG.ERG-DYN-buy-FRQ
 'He often buys books in this shop.'
- b. (i) dəɸ^wase twəč'anə-m sə-k^we-rjə, txəλ₁ qe-s-š'ex^w-a
 yesterday shop-OBL 1.SG.ABS-go-CNV book DIR-1SG.ERG-buy-PST
 'Yesterday I went to the shop and bought a book.'
- (ii) ž'ə a-bə₁ s-we-ž'e
 now DEM-OBL 1WG.ABS-DYN-read
 'Now I am reading it.'
- c. *Ergative agreement/case without absolutive marker*
 - (i) = (a)
 - (ii) Pšaše-m žane-Ø ə-də-ɸ
 girl-ERG dress-(ABS) 3.SG.ERG-sew-PST
 'The/a girl made a dress.'

Note:

(125-b) looks like a case of a *specific* indefinite interpretation. This does not substantially change the above reasoning concerning harmonic alignment.

Conclusion:

At least three of the properties of case-less nominals in Circassian suggest a DP- rather than NP-analysis (viz., non-adjacency/syntactic mobility, pronominal binding, and preservation of original valency). Thus, it looks as though one would ideally like to have a theoretical approach where one can have one's cake and eat it at the same time, i.e., where the case-less nominal has NP status for some syntactic processes, and DP status for others.

A first (unconstrained) possibility:

One can adopt a multidimensional approach (Haegeman & Riemsdijk (1986), Sadock (1991), Pesetsky (1995)): On this view, some syntactic operations access structure in which a full DP is present with case-marker-less nominals, and other syntactic operations access a structure in which

only an NP is present. Both structures exist simultaneously, in different dimensions.

A second possibility:

One can adopt a principled approach envisaging the possibility of *structure removal* at the top level (given the Strict Cycle Condition) in the course of the derivation.

5.3. A New Approach

Proposal:

- Case-marker omission with non-specific (or perhaps, more generally, indefinite) nominals in Circassian involves DP-NP reanalysis, a removal of existing structure (created earlier) in the course of the derivation.
- Such a derivational structure removal is triggered by a designated *Remove* feature on v or V that can be instantiated (or applied) if the DP is non-specific indefinite.
- Unlike what is the case with the passive (see above), where the whole DP_{ext} argument is removed, in the present case, only the head D (and hence its projection) is affected by the feature. This mirrors the standard difference between (external and internal) Merge of a head vs. a phrase. This difference can be indicated by an appropriate index: $[-D_0-]$
- As with DP_{ext} in the passive analysis, the DP shell of a non-specific indefinite nominal in Circassian is predicted to have a short life cycle: DP is first created separately, next merged with v/V , and then D is removed again instantaneously.

(126) *Features for v/V*

- a. $v:[\bullet V \bullet] \succ [\bullet D \bullet] \succ \boxed{[-D_0-]}$
 b. $V:[\bullet D \bullet] \succ \boxed{[-D_0-]}$

Question:

How can the correlation of $[-D_0-]$ on v/V and (non-specific) indefinite interpretation of the nominal argument be formulated?

Answer 1:

v/V and DP undergo an abstract Agree operation with respect to (in)definiteness. $[-D_0-]$ is instantiated/licensed on v/v only if v/V undergoes (In)Def-Agree. (Interesting, but largely orthogonal, questions then arise regarding valuation vs. checking; in a valuation approach to Agree, (In)Def-Agree must precede (and thereby feed) either $[-D_0-]$ instantiation, or at least the successful application of the structure removal operation induced by the Remove feature.)

Answer 2:

Indefinite interpretation is in fact not a precondition for $[-D_0-]$ -based Remove operations to apply; rather, $[-D_0-]$ is instantiated freely on v/V , and if it effects DP-shell deletion, an indefinite interpretation will have to result.

Conclusion:

The two possible options mirror the two options arising with accounts of the interpretational effect of object shift (see Chomsky (2001)). Perhaps the second type of approach is preferable for the reasons that Chomsky suggests; also note that indefinite interpretation would then follow from the order of operations in the same way that other operations in (124) do. (See below.)

5.4. Operations Accessing DP

5.4.1 Subcategorization

Note:

Given this approach, c-selection/subcategorization can be massively simplified: v/V uniformly c-selects D if it takes a nominal argument.

5.4.2 Antecedence of Pronouns

Assumption:

Only DPs bear a referential index.

Account of (125-b):

Once a DP is introduced into the structure, its referential properties are immediately transferred to the semantic representation that is constructed concurrently. Subsequent removal of the DP-shell (hence, by assumption, of the index) comes too late to make coreference impossible. This is an instance of *counter-bleeding*.

5.4.3 Maintenance of Valency

Assumption:

Whether ergative (or, for that matter, accusative) can be assigned is determined pre-syntactically, in the numeration (see Müller (2009), which reconstructs Murasugi (1992)). If there are two D items (in the subarray corresponding to a phase), then T and v will assign case (absolutive/nominative and ergative/absolutive, respectively); if there is only one D item, only T will remain as a case-assigning head.

Account of (125-c):

The decision whether v assigns ergative or not is made on the basis of information in the numeration. At this point, there are still two DPs. Subsequent removal of one D in the syntax comes too late to block ergative assignment by v along these lines (and local deletion of case features, as argued to take place in passive contexts in Müller (2014a), is not available either: If it is DP_{int} that is subject to D_0 deletion, its case comes from T, not from v ; so there is no local trigger for deleting a case probe on v , as there is in the passive, where deletion and case assignment involve the same v head). Again, we have a case of *counter-bleeding*.

5.4.4 Displacement

Assumptions:

1. Only DPs can undergo movement, NPs cannot do so (perhaps because only phases can undergo movement, see Rackowski & Richards (2005)).
2. *Move over Remove*
(See Chomsky (1995; 2001), Weisser (2014) on *Merge over Move*, and Georgi (2014a) on the option of parametrizing general principles determining the order of elementary operations.)
3. XPs in derived phase edges are not accessible to operations carried out by the phase head anymore. (And every phrase is a phase.)

Account of (125-a):

The internal argument DP_1 undergoes movement to the local phase edge position (of VP) *before* its DP-shell is removed by V's Remove ($[-D_0-]$) feature. The $[-D_0-]$ feature on V, which now cannot be discharged anymore by carrying out structure removal, is then simply deleted as a default operation (see Preminger (2011) on probe features). Again, the operation under consideration (movement) is thus *counter-bled* by Remove (or, more precisely, potentially counter-bled since

Remove cannot apply anymore).

Note:

This account presupposes that indefinite interpretation is possible with DPs and NPs (but the reverse does not hold: If there is only an NP, this signals indefinite interpretation).

An alternative:

Remove can apply to a derived specifier after all (cf. the Voice-based version of the approach to passive sketched above); and it is only the *first*, local intermediate movement step that requires DP status. In this case, there would be true counter-bleeding of movement by Remove.

5.5. Operations Accessing NP

Note:

All the other properties in the list in (124) follow directly from the short life cycle of the DP-shell in contexts involving non-specific indefinite nominals in Circassian. In particular, the *lack of case-marking* is immediately explained if (a) a DP is required for case marking, and (b) case-marker insertion is a late (possibly post-syntactic) process (see Halle & Marantz (1993), Arregi & Nevins (2012)). This is a standard case of *bleeding*.

5.6. Conclusion

Take-home message:

- Operations accessing DP status of non-specific indefinite nominals in Circassian *precede* structure-removal via Remove operations
→ counter-bleeding, counter-feeding.
- Operations accessing NP status of non-specific indefinite nominals in Circassian *follow* structure-removal via Remove operations
→ bleeding, feeding.

Speculation:

Parametrization in this area can be accounted for by postulating variability in the order of elementary operations. (The earlier Remove applies in relation to other operations, the less evidence there will be for a DP status of the nominal argument, and vice versa.)

6. Removal of Y: Reanalysis

Existing approaches to reanalysis phenomena (where movement is not an option):

- multidimensional representations: Huybregts (1982), Bennis (1983), Haegeman & Riemsdijk (1986), Di Sciullo & Williams (1987), Sadock (1991), Pesetsky (1995)
- unconstrained reanalysis rules (Bach & Horn (1976), Chomsky (1977) on extraction from NP, Chomsky (1981) on S-bar deletion with ECM constructions)

6.1. Verb Projection Raising in Zurich German

6.1.1 Haegeman and van Riemsdijk on Reanalysis: Definitions

Ref.:

Haegeman & Riemsdijk (1986)

(127) *Reanalysis:*

If the representation of a sentence contains the line $X V_q^i V_r Y$, where $0 \leq i \leq 2$ and V_r is a VR verb, then add the line $X V_x Y$ to that representation.

- (128) *Reanalysis: Parameter*
 If $X V_q^i V_r Y$, where V_r is a VR verb, then add $X V_x Y$.
 a. Standard Dutch, Standard German: $i = 0$
 b. West Flemish, Zurich German: $i = \text{unrestricted}$ (i.e. $0 \leq i \leq 2$)
- (129) *Inversion (PF operation): Main Parameters*
 a. The nonhead must be (non)branching or need not be branching.
 b. The head of V must be V_A or V_M or is unrestricted.
 c. Inversion is optional or obligatory.
 d. V_α is maximal or unrestricted.
- (130) *Inversion in Standard Dutch:*
 $[V_\alpha V_\gamma V_\beta] \Rightarrow [V_\alpha V_\beta V_\gamma]$
 a. Optional: $V_\beta = V_M$ and V_γ is not branching and V_α is not part of a bigger verb cluster
 b. Obligatory: elsewhere
- (131) *Inversion in Standard German:*
 a. $[V_\alpha [V_\gamma V_\delta V_M] V_A] \Rightarrow [V_\alpha V_A [V_\gamma V_\delta V_M]]$ (obl)
 b. $[V_\alpha [V_\gamma [V_\delta V V_M] V_M] V_A] \Rightarrow [V_\alpha V_A [V_\gamma V_M [V_\delta V V_M]]]$
 (obl at top level, otherwise optional)
- (132) *Inversion in West Flemish, Zurich German:*
 $[V_\alpha V_\gamma^i V_{M/A}] \Rightarrow [V_\alpha V_{M/A} V_\gamma^i]$ (obl)
- (133) das er en arie singe chöne_M wele_M hät_A
 that he an aria sing can want has
 a. das er en arie hät wele chöne singe
 b. das er hät en arie wele chöne singe
 c. das er hät wele en arie chöne singe
 d. das er hät wele chöne en arie singe
- (134) a. das er sini chind mediziin studiere laa_{MCaus} wil_M
 that he his children medicine study let wants
 b. das er sini chind mediziin wil laa studiere
 c. das er sini chind wil mediziin laa studiere
 d. *das er sini chind wil laa mediziin studiere*
 e. das er wil sini chind mediziin laa studiere
 f. *das er wil sini chind laa mediziin studiere*
 g. *das er wil laa sini chind mediziin studiere
- (135) *Evers' rule of verb raising:*
 $\dots V_1]_S V_2 \dots$
 a. $\dots e_1] [V_1 V_2] \dots$ (German)
 b. $\dots e_1] [V_2 V_1] \dots$ (Dutch)
- (136) das er em Karajan en arie vorsinge chöne wil
 that he the_{dat} Karajan an_{acc} aria sing for can wants
 a. (i) (*dass er em Karajan en arie chöne [vorsinge] wil
 (ii) (*das er em Karajan chöne [en arie vorsinge] wil
 (iii) (*das er chöne [em Karajan en arie vorsinge] wil
 b. (ia) das er em Karajan en arie wil chöne vorsinge
 (ib) das er wil em Karajan en arie chöne vorsinge

- (iia) das er em Karajan will chöne en arie vorsinge
- (iib) das er wil em Karajan chöne en arie vorsinge
- (iiia) das er wil chöne em Karajan en arie vorsinge
- (iiib) das er wil chöne em Karajan en arie vorsinge

(137) *das er em Karajan will en arie chöne vorsinge*

6.1.2 *The Problem with a Movement-Based Account of Verb Projection Raising in Zurich German Standard assumption* (Evers (1975)):

Verb raising and verb projection raising are derived by rightward movement (“adjunction”) of a verbal category. In Standard German and Dutch, this can only be a minimal, V^0 category. In Zurich German (and West Flemish), it can be any verbal projection.

(138) *Evers’ rule:*

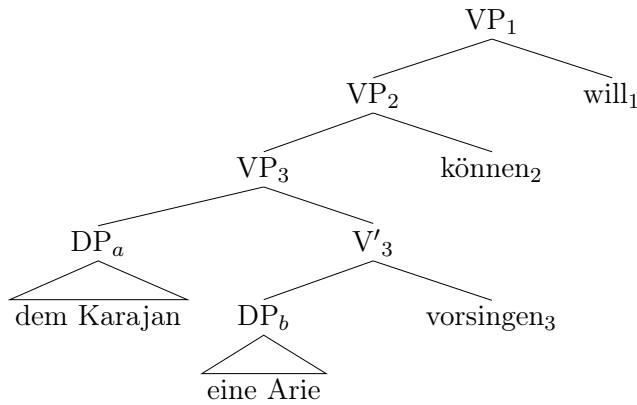
$$[\dots V_2^i] V_1 \Rightarrow [\dots t_2] [_{V'} V_1 V_2^i]$$

(where i can be any projection level)

Generalization for Zurich German:

All orders are ok where (a) the verbs are inverted and (b) the DPs maintain their basic order (dative \succ accusative).

(139) *Base structure:*



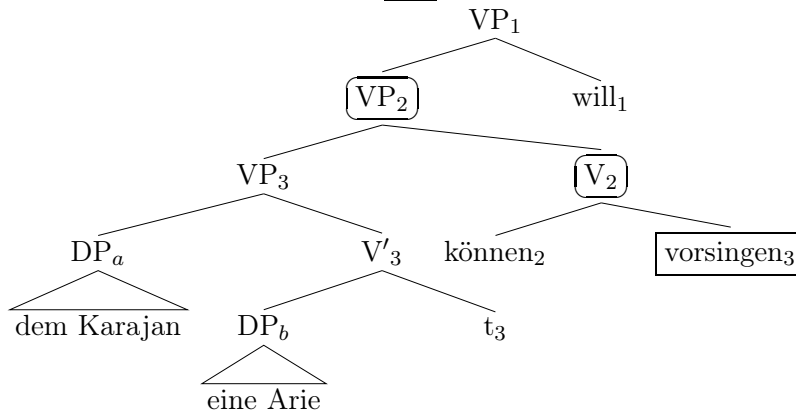
Note:

Verb (projection) raising applies cyclically, from bottom to top. Two steps need to be distinguished. First, V_3^i moves to V_2 ; and then V_2^i moves to V_1 .

Notational convention:

\boxed{X} signals that X has moved; \boxed{X} signals that X can move on the next cycle.

(140) *Intermediate stage, version I: $\boxed{V_3}$ movement*



(141) *Continuations of intermediate stage, version I:*

- a. $\boxed{V_2}$ moves:
dem Karajan eine Arie will können vorsingen
- b. $\boxed{VP_2}$ moves:
will dem Karajan eine Arie können vorsingen

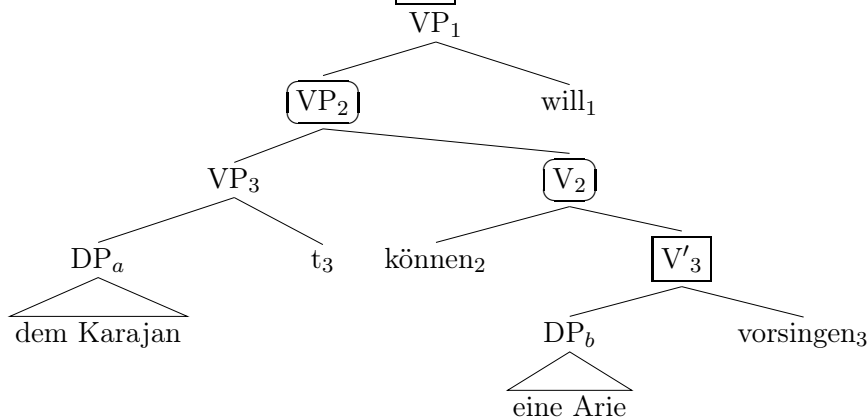
Note:

The string “DP_b–können₂–vorsingen₃” is not a constituent (let alone one of type V₂ⁱ). Therefore, (142) cannot be generated.

(142) *The problematic example:*

dem Karajan will eine Arie können vorsingen

(143) *Intermediate stage, version II: $\boxed{V'_3}$ movement*



(144) *Continuations of intermediate stage, version II:*

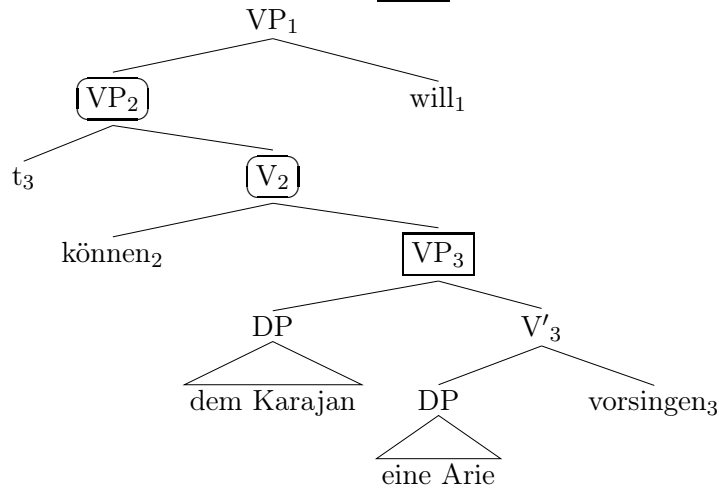
- a. $\boxed{V_2}$ moves:
dem Karajan will können eine Arie vorsingen
- b. $\boxed{VP_2}$ moves:
will dem Karajan können eine Arie vorsingen

Note:

In (143), there is a substring “können₂–eine Arie”, and since only a V₃ⁱ category can be moved in the final step, there is no way to change the order of these two items and produce the problematic example.

(145) *The problematic example again:*
dem Karajan will eine Arie können vorsingen

(146) *Intermediate stage, version III: VP₃ movement*



(147) *Continuations of intermediate stage, version III:*

- a. V₂ moves:
will können dem Karajan eine Arie vorsingen
- b. VP₂ moves:
will t₃ können dem Karajan eine Arie vorsingen

Note:

Again, the problematic example cannot be derived for systematic reasons.

(148) *The problematic example once more:*
dem Karajan will eine Arie können vorsingen

6.1.3 Solution

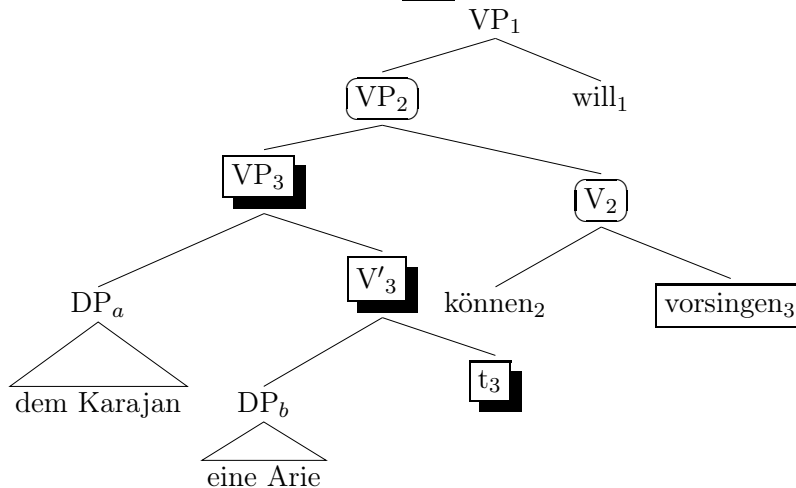
Observation:

The problematic example can be derived if V₂ carries out a(n optional) Remove operation in I that removes V₃, and hence also V₃ⁱ and VP₃, but leaves the embedded structure intact.

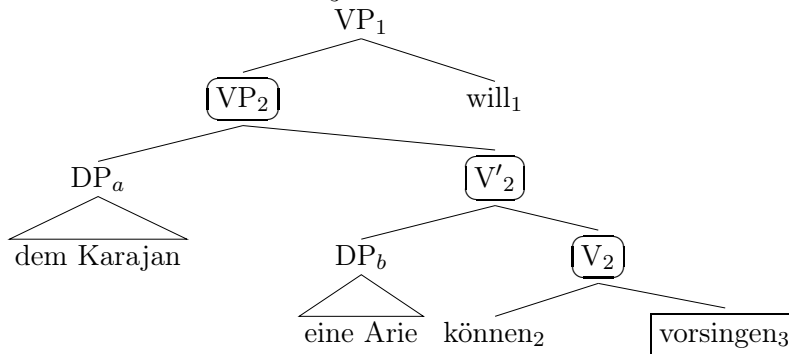
Two technical issues:

- The Remove feature on V₂ would seem to have to be [-V₀-], and the internal Merge feature that triggers V₃ raising. Thus, when Remove is carried out, there is no V₃ left anymore (which is a good thing, because V₃ is clearly pronounced).
- What is new here (as opposed to, say, the Remove approach to Circassian D(P) deletion) is that after the Remove operation has been carried out, there are *two* items (rather than one) that need to be reattached. Since there is no additional special operation involved here, they will have to reassemble in the pre-Remove order.

(149) *Intermediate stage, version Ia: V_3 movement plus V_3^i removal*



(150) *Continuation of stage Ia: V_3^i removal by Remove*



Note:

Now subsequent movement of V'_2 yields the problematic example.

(151) *The problematic example finally derived:*
dem Karajan will eine Arie können vorsingen

Note:

Given Haegeman and van Riemsdijk's assumptions, Remove operations will also be active in verb (projection) raising constructions so as to effect clause union (CP, TP deletion). More on that in the next subsection.

6.2. Restructuring in German

6.2.1 Arguments for Monoclausality of Restructuring Infinitives

Lit.:

Stechow & Sternefeld (1988), Grewendorf (1988), Fanselow (1991), Bayer & Kornfilt (1994).

(152) *I. Ban on extraposition:*

- a. Sie hatte [nicht gestört zu werden] gewünscht
she had not disturbed to be wished

- b. Sie hatte gewünscht [nicht gestört zu werden]
she had wished not disturbed to be
- c. Sie hatte [nicht gestört werden] wollen
she had not disturbed be wanted
- d. *Sie hatte wollen/gewollt [nicht gestört werden]
she had want/wanted not disturbed be

Note:

Some verbs obligatorily trigger restructuring; regular control verbs (like *versuchen*) do so optionally.

(153) *II. Wide scope of negation:*

- a. Sie musste nichts tun
she must-PAST nothing do
- b. Sie bedauerte nichts gesagt zu haben
she regretted nothing said to have

(154) *Two readings for (154-a), one for (154-b):*

- a. "Sie was forced to do nothing."
- b. "Sie did not have to do anything."
- c. "Sie regretted that she had not said anything."
- d. *"She did not regret that she said something."

Note:

The amalgamation of *nicht* and an indefinite, as in *nichts* or *niemand*, a "kohäsive Verbindung", is confined to membership in the same clause.

(155) *III. Scrambling across matrix material:*

- a. weil sich₁ der Oberförster₁ t₁ rasieren wollte
because REFL the head forester shave wanted
- b. weil der Oberförster₁ [sich₁ rasiert zu haben] bezweifelte
because the head forester REFL shaved to have doubted
- c. *weil sich₁ der Oberförster₁ [t₁ rasiert zu haben] bezweifelte
- d. *weil sich₁ der Oberförster₁ bezweifelte [t₁ rasiert zu haben]

Note:

Scrambling in German is strictly clause-bound.

(156) *Ban on long-distance scrambling in German:*

- a. *dass ihn₁ der Oberförster sagte [dass Peter t₁ treffen soll]
that him the head forester said that Peter meet shall
- b. *dass ihn₁ der Oberförster sagte [solle Peter t₁ treffen]
that him the head forester said should Peter meet

(157) *IV. Status government ('verbal case assignment'):*

- a. als wir Ede singen hörten
when we Ede sing heard
- b. weil Beate Ede anrufen will
because Beate_{nom} Ede_{acc} call wants
- c. weil Beate Ede angerufen haben wird
because Beate_{nom} Ede_{acc} called have will
- d. weil das Wetter gut zu werden scheint
because the wather good to become seems

- (158) *Status* ('verbal cases'):
- first status: aufessen (bare infinitive)
 - second status: aufzuessen (zu-infinitive)
 - third status: aufgegessen (past participle)

Assumption:

Status government, like all kinds of government, is clause-bound.

- (159) *V. Pied piping of infinitives:*
- die Ratten, die zu fangen Hubert sich vorgenommen hatte
the rats which to capture Hubert REFL planned had
 - *die Ratten, die Hubert fangen Günther ließ
the rats which Hubert capture Günther let
 - *die Ratten, die zu fangen Günther scheint
the rats which to capture Günther seems
- (160) *VI. Verb (projection) raising* (incl. Ersatz-infinitive):
- weil wir Ede hatten singen hören
because we Ede had sing hear
 - weil Beate Ede wird anrufen wollen
because Beate_{nom} Ede_{acc} will call want
 - weil er das Land nicht wird haben verlassen dürfen
because he the land not will have left may
- (161) *VII. Intonation* ('Grenzpause'):
- weil sie ihn zu küssen versuchte
because she him to kiss tried
 - weil sie versuchte ihn zu küssen
because she tried him to kiss
- (162) *Consequence: structural ambiguity may arise:*
- weil Regine mich anzurufen versucht
because Regine me to call tries
 - weil mich Regine anzurufen versucht *only restructuring possible*
because me Regine to call tries
 - weil Regine versucht mich anzurufen *no restructuring possible*
because Regine tries me to call

6.2.2 Arguments for Biclausality of Restructuring Infinitives

- (163) *VIII. Uniformity of embedding with verbs that optionally trigger restructuring:*
- dass der Oberförster versuchte [CP dem Peter einen Film zu empfehlen]
that the head forester tried the Peter_{dat} a film_{acc} to recommend
 - dass sie [CP dem Peter einen Film zu empfehlen] versuchte
that she the Peter_{dat} a film_{acc} to recommend tried
 - dass ihn₁ der Oberförster [dem Peter zu empfehlen] versuchte
that him the head forester the Peter_{dat} to recommend tried

Note:

There are no control verbs can participate in restructuring but do not also allow a CP complement.

(164) IX. *Ungoverned PRO*

- a. dass der Oberförster versuchte [_{CP} PRO ein Buch zu lesen]
that the head forester tried a book to read
- b. dass der Oberförster [_{CP} PRO ein Buch zu lesen] versuchte
that the head forester a book to read tried
- c. *dass der Oberförster [_{VP} PRO ein Buch zu lesen] versuchte
- d. *dass der Oberförster [_{VP} ein Buch zu lesen] versuchte

Note:

This presupposes that *lesen* must discharge both its θ -roles in the syntax, that the external θ -role is represented by PRO, and that PRO must not be governed ('PRO theorem'), Chomsky (1981).

(165) *Overlapping binding domains with ECM in English* (Büring (2005)):

- a. O'Leary₁ believes himself₁ to deserve the crown of England
- b. O'Leary₁ wants Georgina₂ to protect herself₂
- c. *O'Leary₁ wants Georgina₂ to protect himself₁

(166) X. *No new binding domains with restructuring in German:*

- a. Der Oberförster₁ hat ihm₂ sich₁ zu waschen versprochen
the head forester has him_{dat} REFL to wash promised
- b. *Der Oberförster₁ hat ihm₂ sich₂ zu waschen versprochen
the head forester has him_{dat} REFL to wash promised
- c. ?Der Oberförster₁ hat ihm₂ sich₂ im Spiegel gezeigt
the head forester has him_{dat} REFL in the mirror shown

(Sternefeld & Featherston (2003))

Note:

The reasoning in (31-a) presupposes that *sich* is not obligatorily bound to a possible antecedent in a minimal clause and can find a different binder once the intervening subject is removed; the reasoning here implies that once *sich* has found a possible antecedent in a CP, it cannot find a new binder. The correct generalization would seem to be that picking a first possible antecedent is only obligatory and irreversible for German reflexives if that antecedent stays in the derivation. The crucial observation is that *der Oberförster* is, and *ihm* is not, such a possible first antecedent in (166-b), due to the presence of a CP (biclausality).

6.2.3 Analyses

Restructuring has been argued to involve:

- monoclausality throughout: Haider (1993; 2010), Kiss (1995), Wurmbrand (2001)
- biclausality throughout: Baker (1988), Sternefeld (1990), Müller & Sternefeld (1995)
- reanalysis: Rizzi (1982), Aissen & Perlmutter (1983), Di Sciullo & Williams (1987)

Note:

(i) Evidence for monoclausality \Rightarrow inaccessibility of CP (TP, ...)

(ii) Evidence for biclausality \Rightarrow accessibility of CP (TP, ...): Short life cycle effects.

Sketch of a new reanalysis approach based on structure removal

1. Restructuring verbs uniformly embed CPs, but they have Remove features that subsequently peel off CP, TP, ... (i.e., [-C₀-], [-T₀-]).
2. Different kinds of restructuring infinitives may thus have different sizes, depending on the amount of structure that is successively removed by the matrix verb (Fanselow (1991), Wurmbrand (2001)).

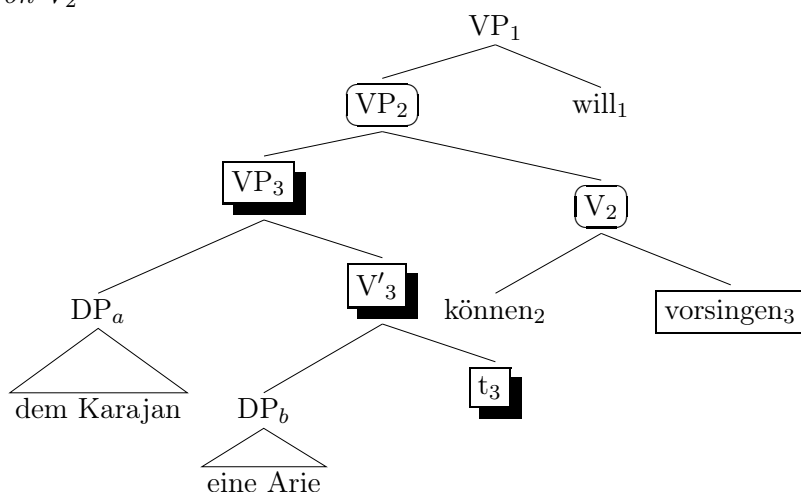
3. Operations that require the presence of CP (TP, ...) are checked before structure removal (they are counter-bleed and counter-fed by structure removal): Subcategorization, Principle A (in German; see above), PRO licensing.
4. Other operations that argue for monoclausality apply afterwards (bleeding, feeding).

Note:

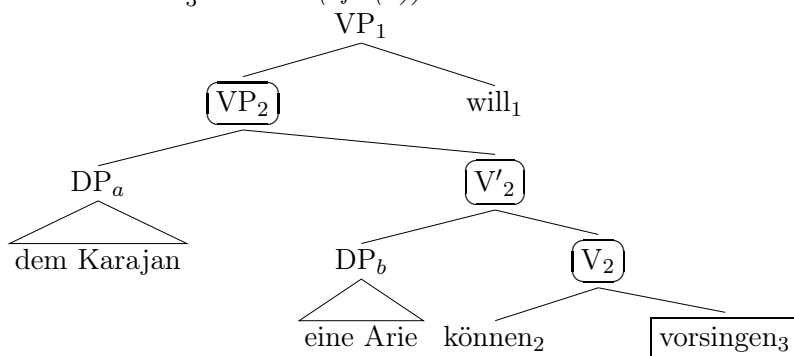
As noted in the previous subsection, this approach also captures the notoriously problematic case of verb projection raising in Zurich German involving order preservation and interleaving of verbal and nominal material that is highlighted in Haegeman & Riemsdijk (1986).

(167) dass er dem Karajan will eine Arie können vorsingen
 that he the Karajan_{dat} wants an aria_{acc} can sing

(168) *Intermediate stage of the derivation:* $\boxed{V_3}$ movement plus V_3^i removal triggered by $[-V_0-]$ on V_2



(169) *Continuation:* V_3^i removal (cf. (6))



Note:

Subsequent movement of $\boxed{V'_2}$ yields the right order.

6.3. Extraction from NP

- (170) a. *[PP Über wen]_i hat [NP ein Buch t_i] den Wolfgang beeindruckt ?
 about whom has a book_{nom} ART Wolfgang_{acc} impressed
 b. *[PP Über wen]_i hat den Wolfgang [NP ein Buch t_i] beeindruckt ?
 about whom has ART Wolfgang_{acc} a book_{nom} impressed

- c. [PP Über wen]_i hat der Wolfgang [NP ein Buch t_i] geschrieben ?
 about whom has ART Wolfgang_{nom} a book_{acc} written
- d. *[PP Über wen]_i hat der Wolfgang [NP ein Buch t_i] geklaut ?
 about whom has ART Wolfgang_{nom} a book_{acc} stolen
- (171) a. *[PP Über wen]_i hat der Verleger [NP einem Buch t_i] keine Chance
 about whom has the publisher_{nom} a book_{dat} no chance_{acc}
 gegeben ?
 given
- b. *Worüber_i hat man neulich [NP einem Buch t_i] einen Preis
 about-what has one_{nom} recently a book_{dat} an award_{acc}
 geschenkt/verliehen ?
 given
- (172) a. [PP Über wen]_i hat keiner einer Frau [NP ein Buch t_i] gegeben ?
 about whom has no-one_{nom} a woman_{dat} a book_{acc} given
- b. Worüber_i hat man dir [NP ein Buch t_i] geschenkt ?
 about-what has one_{nom} you_{dat} a book_{acc} donated

Analysis in Müller (1995):

Barriers are to some extent determined by lexical factors.

(173) *Barrier:*

For every α included in XP, XP is a barrier iff (a) and (b) hold.

- a. α does not occupy an escape hatch in XP.
- b. X is distinct from Y, where Y is the head of YP, and YP is the minimal maximal projection which does not exclude XP.

(174) *Three ways of removing distinctness of heads:*

- a. overt incorporation (Baker (1988))
- b. empty identification (cf. complementizer-trace effects)
- c. *abstract incorporation:* co-indexing at S-structure followed by movement at LF.

An alternative via reanalysis:

Bach & Horn (1976), Chomsky (1977)

A Remove approach to NPs:

This is actually not trivial. A naive approach:

- (i) [-N₀-] on V. (This is possible only if V and N qualify as a “natural predicate”.)
- (ii) Movement of PP since there is no NP that would block it.
- (iii) Reemergence of NP via [•N•] on V.

Note:

This is problematic because (a) determiners (DP in NP) are ignored, and (b) V actually has *two* separate subcategorization features for NP.

6.4. Extraction from Clauses

Note:

This works much better.

- (175) *Bridge verbs vs. non-bridge verbs:*
- a. Wie₁ denkst du [CP dass das passiert ist t₁] ?
 how think you that this happened is
 - b. *Wie₁ bedauerst du [CP dass das passiert ist t₁] ?
 how regret you that this happened is

Analysis in Müller (1995) (based on Ross (1967), Kiparsky & Kiparsky (1970), Chomsky (1973), Perlmutter & Soames (1979)):

- (i) All (finite) clausal complements are embedded in NP shells.
- (ii) Bridge verbs differ from other clause-embedding predicates in permitting abstract incorporation of N, the head of the NP-shell.
- (iii) Presence of the NP-shell blocks extraction from a CP.
- (iv) Problem: There is no evidence whatsoever for incorporation of an abstract N (bridge verbs do not form a natural class from a morphological perspective).

A reanalysis approach:

Bridge verbs have a Remove feature that gets rid of the NP shell: [-N₀-]

7. External Remove

Note:

All instances of Remove so far have been cases of *internal* Remove.

Question:

Are there also cases of *external* Remove?

Hypothesis:

Yes. This would include constructions where, e.g., one would expect a DP to show up (based on interpretation and subcategorization requirements), but it doesn't. Analysis: Here a head bearing a feature like [-D₂-] that is restricted to external operations removes a D item from the numeration before it has ever had a chance to enter the syntactic derivation.

7.1. Adjectival vs. Verbal Passive

- Classic distinction for English: Tom Wasow (1977) ("Transformations and the Lexicon"); vgl. auch Williams (1981), Bresnan (1982), Levin & Rappaport (1986), etc.

- In German:

Zustandspassiv vs. Vorgangspassiv ('true Passiv'): two different passive auxiliaries.

- (176) *Auxiliary selection:*
- a. Die Geisslein sind/waren versteckt
 the goatlings are/were hidden
 - b. Die Geisslein werden/wurden versteckt
 the goatlings are/were hidden
- (177) *By-phrases* (but see Rapp (1996), Maienborn (2007; 2011) for qualifications):
- a. *Die Geisslein sind von niemandem versteckt
 the goatlings are by no-one hidden
 - b. Die Geisslein wurden von niemandem versteckt
 the goatlings were by no-one hidden

However:

This does not yet automatically account for other differences between the two passives.

(178) *Temporal adverbials:*

- a. Das Fenster ist seit gestern geöffnet (offen)
- b. #Das Fenster wird seit gestern geöffnet

(179) *Un-Prefixation:*

- a. Das Fenster ist ungeöffnet
the window is unopened
- b. *Das Fenster wird ungeöffnet
the window is uopened

7.2. Object Drop

Lit.: Rizzi (1986a), Grewendorf (1989), Müller & Rohrbacher (1989)

(180) *Object drop:*

- a. Karl isst schlecht
- b. Hans fotografiert gut

(181) *Control and implicit objects:*

- a. Das schöne Wetter lädt ein zu bleiben
- b. ?Gute Musik kann wieder miteinander versöhnen
- c. ?*Der Doktor untersucht nüchtern
- d. *Hans fotografiert im Sitzen

8. Conclusion and Outlook

Conclusion:

Structure removal systematically accounts for many cases of conflicting representations, where *movement* does not suggest itself.

Question:

Doesn't Remove violate basic syntactic principles?

Answer:

The only relevant constraint that it must violate is the *Projection Principle* (see Chomsky (1981)).
However:

- (a) There is no room for the Projection Principle in current minimalist analyses anymore.
- (b) The Projection Principle has always been a conceptually unattractive constraint since it qualifies as *global* in Lakoff's (1971) sense. (A global constraint applies to a whole derivation; it correlates non-adjacent steps in the derivation.)

(182) *Projection Principle:*

- a. If A selects B as a lexical property, then A selects B in C at level L_i .
- b. If A selects B in C at level L_i , then A selects B in C at level L_j .

(183) *A consequence of the Projection Principle:*

- a. What₁ did John [_{VP} see what₁]?
- b. *What₁ did John [_{VP} see]?

Note:

To find out whether the Projection Principle is violated, it does not suffice to simply look at a level

of representation, or at a step in the derivation – to show that (183-b) is an impossible S-structure representation, we have to know that there is an object DP within VP at an earlier derivational stage.

Question:

Does it make sense for syntactic derivations to first build structure and then remove it again?

Answer:

Teleological fallacy: It's not the case that Merge exists *so that* syntactic structures can be built. Rather, Merge exists, and as a consequence it can be used for structure-building. Note also that structure-building is not per se correlated with maximal size: There is no reason why bigger structures would be preferable to smaller structures.

Furthermore:

- Feature deletion is widely adopted in minimalist analyses (also cf. Keine (2010), Doliana (2013) on impoverishment within syntax, and Arregi & Nevins (2012) on impoverishment close to syntax), and the difference between feature bundles on the one hand and heads and phrases on the other hand is a quantitative rather than qualitative one.
- As laid out in detail in Hornstein (2014), Chomsky's (2014) recent approach to complementizer-trace effects in English presupposes that the CP shell is structurally removed; this corresponds to [-F₀] feature-driven Remove operations as envisaged above.

Future goals:

(i) To establish Remove as an integral part of syntactic derivations, it is necessary to carry out in-depth studies of (a) the grammars of individual languages, covering many different phenomena, which should eventually result in a substantial fragment, and (b) phenomena that potentially lend themselves to structure removal from a cross-linguistic perspective. The reason is that in principle, all individual pieces of evidence for Remove can presumably be addressed differently; it is the identification of a very general *pattern*, both cross-linguistically and with single languages, that will eventually make the case for or against this operation.

(ii) A new elementary operation Remove offers many new possible ways of interaction with established operations (like internal and external Merge, Agree) which need to be closely investigated (counter-feeding, feeding, counter-bleeding, bleeding).

Note:

The seminar/lecture series has produced three presentations/handouts by graduate students on some relevant empirical phenomena, based on the ideas presented in the lectures. These handouts contain several further interesting observations, and further potential arguments in support of Remove: Barnickel (2015) (on diatheses), Puškar (2015) (on oscillation), and Murphy (2015) (on deletion).

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