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:
(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′\[\bullet Y \bullet \succ -Y 2 -\], YP):
   \[ \begin{array}{c}
   X' \\
   X [+ Y 2 -] \\
   YP \\
   ZP \\
   Y \\
   WP \\
   \end{array} \]
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′[Y 2 −], YP):
   \[ \begin{array}{c}
   XP \\
   YP \\
   ZP \\
   Y' \\
   WP \\
   \end{array} \]
b. Remove($X'[-Y_0-],YP$):

\[
\begin{array}{c}
\text{XP} \\
X \quad \text{UP} \\
\end{array}
\]

Note:
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($X'[-Y_0-],YP$):

\[
\begin{array}{c}
\text{XP} \\
X \quad Y' \quad \text{YP} \\
\end{array}
\]

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

\[
\begin{array}{c}
\text{XP} \\
X \quad \text{UP} \\
\end{array}
\]

Short life cycle effects:
1. Some other operation $\Gamma$ 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 $\Gamma$ 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).
2. Removal of YP: Grammatical Function-Changing

2.1. Passive

2.1.1. 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), Sternfeld (1995), Collins (2005), Schäfer (2012), Alexiadou & Doron (2013), Harley (2013), Merchant (2013), Georgi (2014b)). (The external argument is rendered as DP\textsubscript{ext} in what follows.)

(7) I: Control by DP\textsubscript{ext} into purpose clauses:
\begin{itemize}
  \item a. Das Schiff wurde DP\textsubscript{ext} versenkt [CP PRO\textsubscript{1} um die Versicherung zu kassieren ]
  \item b. Der Reifen wurde DP\textsubscript{ext} aufgepumpt [CP PRO\textsubscript{1} um die Fahrt fortzusetzen ]
\end{itemize}

(8) II: Subject-oriented secondary predicates and DP\textsubscript{ext}:
\begin{itemize}
  \item a. Die Daten wurden DP\textsubscript{ext} [SC PRO\textsubscript{1} nackt ] analysiert
  \item b. Das Handout wurde DP\textsubscript{ext} [SC PRO\textsubscript{1} übermüdet ] verfasst
  \item c. Es wurde [SC PRO\textsubscript{1} absichtlich ] ein Fehler gemacht
  \item d. Dort wird [SC PRO\textsubscript{1} freiwillig ] gearbeitet
\end{itemize}

(9) III: Principle A and DP\textsubscript{ext}:
\begin{itemize}
  \item a. Hier wurde DP\textsubscript{ext} sich \textsubscript{1} nicht geprügelt hier was \textsubscript{REFL} not hit
  \item b. Es wurde DP\textsubscript{ext} einander \textsubscript{1} gedankt it was \textsubscript{each} other thanked
\end{itemize}

(10) IV: Principle C and DP\textsubscript{ext}:
\begin{itemize}
  \item a. *Gestern wurde DP\textsubscript{ext}, Fritz\textsubscript{1} eingeladen yesterday was Fritz invited intended reading: ‘Yesterday, Fritz invited himself.’
  \item b. ?Gestern wurde DP\textsubscript{ext}, Fritz\textsubscript{1} [pp von sich\textsubscript{1} ] (selbst) geschlagen yesterday was Fritz by himself self invited
\end{itemize}

(11) Downward Accessibility Generalization:
The external argument in passive constructions (DP\textsubscript{ext}) is accessible for items below $\nu$.

\begin{itemize}
  \item 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: \textsubscript{DP\textsubscript{ext}} means that DP\textsubscript{ext} seems to be inaccessible.)
\end{itemize}

(12) V: Unavailability of binding in impersonal passives:
\begin{itemize}
  \item a. *Kein Student glaubt [CP dass \textsubscript{DP\textsubscript{ext}} gut gearbeitet wird ] no student believes that well worked is
  \item b. Kein Student glaubt [CP dass \textsubscript{DP\textsubscript{ext}} [pp von ihm\textsubscript{1} ] gut gearbeitet wird ] no student believes that by him well worked is
\end{itemize}

(13) VI: Unavailability of binding in personal passives:
\begin{itemize}
  \item a. *Er hat den meisten Lehrern\textsubscript{1} erzählt [CP dass \textsubscript{DP\textsubscript{ext}} der Maria he has the most teachers\textsubscript{dat} told that the Maria\textsubscript{dat}
    Bücher geschenkt werden sollen ] books\textsubscript{nom} given are should
  \item b. Er hat den meisten Lehrern\textsubscript{1} erzählt [CP dass \textsubscript{DP\textsubscript{ext}} [pp von ihnen\textsubscript{1} ] gut gearbeitet wird ] he has the most teachers\textsubscript{dat} told that by themselves
    der Maria Bücher geschenkt werden sollen ] the Maria\textsubscript{dat} books\textsubscript{nom} given are should
\end{itemize}

(14) VII: Unavailability of criterial movement of DP\textsubscript{ext} in passive constructions:
\begin{itemize}
  \item a. *Ich denke [CP \textsubscript{DP\textsubscript{ext}} ist gut gearbeitet worden ] I think is well worked been
  \item b. Ich denke [CP [pp von ihr\textsubscript{1} ] ist gut gearbeitet worden ] I think by her is well worked been
  \item c. Ich denke [CP es ist \textsubscript{DP\textsubscript{ext}} gut gearbeitet worden ] I think it is well worked been
\end{itemize}
Control infinitives must have an accessible subject argument.

(15) 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.

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

```
   TP
     T
       vP
data\_ext

   x
   v
   VP
   DP\_int
```

However:
DP\_ext moves to SpecT in English passive constructions; and DP\_int can also move to SpecT in German passive constructions where such movement is optional.

(17) Subject movement in passive constructions in English:
   [TP John\_2 was [vP [\_ext [\_ int |v |vP killed t\_2 ]]]]

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 (18-c)).
(iii) Subject DPs can optionally move to some designated position in front of unstressed pronouns: SpecT.

(18) Optional subject movement in active constructions in German:
   a. dass er \_nom [vP der Fritz\_1 nom dem Karl\_3 t\_2 gegeben ] hat
      that it\_acc the Fritz\_nom the Karl\_dat given has
   b. dass der Fritz\_1 [vP t\_1 dem Karl\_2 t\_2 gegeben ] hat
      that the Fritz\_nom it\_acc the Karl\_dat given has
   c. *dass der Fritz\_1 dem Karl\_3 es\_2 [vP t\_1 t\_2 gegeben ] hat
      that the Fritz\_nom the Karl\_dat it\_acc given has
   d. *dass dem Karl\_1 der Fritz\_1 es\_2 [vP t\_1 t\_2 gegeben ] hat
      that the Karl\_dat the Fritz\_nom it\_acc given has

(19) Optional subject movement in passive constructions in German:
      that the Karl\_nom her\_dat introduced was
   b. dass ihr\_3 [vP [\_ext [\_ int |v |vP t\_3 der Karl\_2 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 interference 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 (20) (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 (20) cannot be due to raising of sich to the matrix clause because sich can participate in VP topicalization.)

(20) X: Transparency for anaphoric binding
   a. Der König\_1 lässt [nach \_ext sich\_1 dat rasiert ]
      the king\_nom lets REF\_L shave
   b. Der König\_1 lässt [act die Diener\_2 sich\_1 dat rasiert ]
      the king\_nom lets the servants REF\_L shave

(21) 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 (22) emerges.

(22) 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.)

2.1.2. Analysis Proposal

- Passive is triggered by the optional addition of a [-D2-] feature to v in the numeration (i.e., to the very same head that introduces the external argument DP).
- [-D2-] 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.

(23) Transitive passive constructions:

a. dass DPext das Buch2 gelesen wurde
   that the book2 read was
b. Lexicon: v: [+V] > [+D] > [+acc*] ([+F*] = probe feature for Agree)
c. Numeration: v: [+V] > [+D] > [-D2-] > [+acc*]

(24) Scarcity of case features:
A head assumes that the number of DPs and case features is balanced; undoing the effect of a [+D] feature by discharging a [-D2-] feature therefore invariably implies removal of a [case*] 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 & Řezáč (2009), Preminger (2011)).

(25) A passive derivation:

a. v: [+V] > [+D] > [-D2-] > [+acc*], [VP das Buch gelesen ]
b. [-v, v: [+D] > [-D2-] > [+acc*] [VP das Buch gelesen ]
c. [-v, DPext [-v, v: [-D2-] > [+acc*] [VP das Buch gelesen ]]
d. Syntactic activity of DPext: a short life cycle in which control and binding of c-commanded items can be accomplished
e. [-v, v: [+acc*] [VP das Buch gelesen ]
f. [+v, v: [+acc*] [VP das Buch gelesen ]

2.1.3. Life

(26) Control:

a. Das Schiff wurde DPext versenkt [CP PRO1 um die Versicherung zu kassieren ]
b. Die Daten wurden DPext [SC PRO1 nackt ] analysiert

(27) Control in passive derivations

a. Merge(v, VP)

b. Control by DPext: Merge(DPext, v')

c. Counter-Bleeding of control by DPext: Remove(DPext, v')
d. Case probe removal

\[
\begin{array}{c}
vP \\
v \\
CP/SC \\
PRO_{1} \ldots DP_{\text{int}} \ V \\
\end{array}
\]

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.

(28) Binding:
- a. Hier wurde DP_{ext}\_1 \text{ sich}_{1} \text{ nicht geprügelt} \\
  here was \text{REFL} \text{ not} \text{ hit}
- b. *Gestern wurde DP_{ext}\_1 \text{ Fritz}_{1} \text{ eingeladen} \\
  yesterday was \text{Fritz} \text{ invited} \\
  intended reading: ‘Yesterday, Fritz invited himself.’

(29) Binding in passive derivations
- a. Merge(v, VP)

\[
\begin{array}{c}
v' \\
v[\text{[-D-]}][\text{[\text{[+acc]}]}] \\
V \\
DP_{\text{refl}} \\
\end{array}
\]

- b. Reflexivization: Merge(DP_{ext\_1}, v')

\[
\begin{array}{c}
vP \\
v' \\
DP_{\text{ext}\_1} \\
v[\text{[-D-]}][\text{[\text{[+acc]}]}] \\
V \\
DP_{\text{refl}\_1} \\
\end{array}
\]

c. Counter-bleeding of reflexivization: Remove(DP_{ext\_1}, v')

\[
\begin{array}{c}
vP \\
v[\text{[\text{[+acc]}]}] \\
VP \\
DP_{\text{refl}\_1} \ V \\
\end{array}
\]

d. Case probe removal

\[
\begin{array}{c}
vP \\
v' \\
VP \\
DP_{\text{refl}\_1} \ V \\
\end{array}
\]

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

2.1.4. Death

(30) Binding from above:
- a. *Kein Student\_1 \text{ glaubt} \text{[CP dass DP_{\text{int}} gut gearbeitet wird]} \\
  no student believes \text{that well worked is}
- b. *Er hat den meisten Lehrern\_1 \text{ erzählt} \text{[CP dass DP_{\text{int}} der Maria Bücher geschenkt werden sollen]} \\
  he has the most teachers\_1 told \text{that the Maria\_dat books\_nom given are should}

(31) Bound variable interpretation in passive derivations
- a. Merge(DP_{ext\_1}, v')
b. \( \text{Remove}(\text{DP}_{\text{ext}}, v^\prime) \)

\[
\begin{array}{c}
\text{vP} \\
\text{v} & [\text{acc}] & \text{VP} \\
\end{array}
\]

\[
\begin{array}{c}
\ldots & \text{V} \\
\end{array}
\]

c. \( \text{Case probe removal} \)

\[
\begin{array}{c}
\text{vP} \\
\text{v} & \text{VP} \\
\end{array}
\]

\[
\begin{array}{c}
\ldots & \text{V} \\
\end{array}
\]

d. ...

e. \( \text{Bleeding of binding of embedded } \text{DP}_{\text{ext}}: \text{Merge}(\text{DP}_{\text{ext}}, v^\prime) \) in the matrix clause

\[
\begin{array}{c}
\text{vP} \\
\text{DP}_{\text{ext}} & \text{v} & \text{v}^\prime & \text{VP} \\
\end{array}
\]

\[
\begin{array}{c}
\text{CP} & \text{V} \\
\end{array}
\]

\[
\begin{array}{c}
\ldots & \text{vP} \\
\text{v} & \text{VP} \\
\end{array}
\]

\[
\begin{array}{c}
\ldots & \text{V} \\
\end{array}
\]

(32) \textit{Subject raising respects Minimality:} \\
\( [\text{TP John}_2 \text{ was }] [\text{vP } \text{DP}_{\text{ext}} \text{ v}_2 [\text{VP killed t}_2 \text{ ]}] \) [3]

(33) \textit{Minimality in passive derivations}

a. \( \text{Merge}(\text{DP}_{\text{ext}}, v^\prime) \)

\[
\begin{array}{c}
\text{vP} \\
\text{DP}_{\text{ext}} & \text{v} & \text{v}^\prime & \text{VP} \\
\end{array}
\]

\[
\begin{array}{c}
\text{v} & \text{VP} \\
\end{array}
\]

\[
\begin{array}{c}
\ldots & \text{V} \\
\end{array}
\]

2.1.5. \textit{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). What is worse, a \( \text{[\text{D}_2]} \) feature on Voice for removal of \( \text{DP}_{\text{ext}} \) in Specv would lead to a violation of the Strict Cycle Condition; see discussion of (3).

\textit{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))

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

2.1.6. Intransitive Constructions

(34) 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:
   i. *Hier wird jetzt gefallen
      here is now pleased
   ii. *Es wurde angekommen
        it was arrived

Observation:
[–D₂–] 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 [–D₂–] on v since it is located in Specv, and execution of Remove does not violate the Strict Cycle Condition.
- The sole DP argument of an unaccusative verb cannot be removed via [–D₂–] on v since it is located within VP, and execution of Remove would violate the Strict Cycle Condition.

2.1.7. 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 spellout (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 [–D₂–], 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.

2.2. Applicative

2.2.1. Data and Existing Analyses

(35) Applicatives in German:

a. Wir laden Heu auf den Wagen
   we nom load hay acc onto the wagon
b. Wir beladen den Wagen mit Heu
   we 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. (36), (37).
(ii) Pylkkänen (2000): An Appl head introduces a further argument.

(36) Applicatives by incorporation: base structure

a. dass wir Heu auf (‘bei’) den Wagen laden

b. \[DP \atop \text{vP} \]
   \[\text{DP} \atop \text{PP} \]
   \[\text{Heu} \atop \text{P} \]
   \[\text{DP} \atop \text{laden} \]
   \[\text{auf} \atop \text{den Wagen} \]
(37)  **Applicatives by incorporation: derived structure**

a. dass wir (mit) Heu den Wagen beladen

\[
\begin{array}{c}
\text{DP} \\
\text{vP} \\
\text{v'
}\end{array}
\]

b. wir VP v

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

2.2.2. **New Analysis**

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

(38)  **Proposal:**

a. laden: \(\star \text{P} \star \rightarrow \star \text{D} \star \)

b. P can be \textit{auf} or \textit{be}; the latter is an affix that moves to V in the syntax.

c. A Remove feature \([-\text{D}_2\rightarrow\] can optionally be added to V in the numeration:
\(\star \text{P} \star \rightarrow \star \text{D} \star \rightarrow \star \text{D}_2\star\)

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.

(39)  **Optionality of theme argument as evidence for \([-\text{D}_2\rightarrow\]:**

a. *Wir laden heute Heu

\(\text{we load today hay}\)

b. *Wir laden heute auf den Wagen

\(\text{we load today onto the wagon}\)

c. Wir beladen den Wagen

\(\text{we load the wagon}\)

d. *Wir beladen mit Heu

\(\text{we load with hay}\)

**Question:**
How can the presence of \textit{be} as the P head be tied to the presence of \([-\text{D}_2\rightarrow\) on V?

---

Answer:

- Both operations are optional. However, if \(\textit{be}\) is the P head and \([-\text{D}_2\rightarrow\) does not show up, the second DP remains without case, and ungrammaticality arises; (40-a).

  On the other hand, if \textit{auf} is the P head and \([-\text{D}_2\rightarrow\) is instantiated on V in the numeration, \(\text{v}_{\text{trans}}\) 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; (40-b). (Alternative approach: selection.)

(40)  **Blocked combinations:**

a. *dass wir Heu den Wagen beladen

\(\text{that we nom hay acc onto the wagon load}\)

b. *dass wir (mit Hen) auf den Wagen laden

\(\text{that we nom (with hay) onto the wagon load}\)

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

(41)  **Principle A: no evidence:**

a. Wir setzen die Spielfigur auf sich

\(\text{we set the pawn onto refl}\)

b. *Wir besetzen die Spielfigur mit sich

\(\text{we put the pawn onto refl}\)

c. ?Wir besetzen die Spielfigur mit sich

\(\text{we nom put the pawn onto refl}\)

(42)  **Control into secondary predicates: evidence for downward accessibility:**

a. Man giesst das Wasser dann [\textsc{CP} dassthat man \text{one nom pours the water acc then hot over the well chilled berries]}

b. Man begiesst dann die gut gekühlten Beeren [\textsc{CP} dassthat man \text{one nom pours} then the well chilled berries acc hot (mit dem Wasser)]

(43)  **Unavailability of binding: evidence for upward inaccessibility:**

a. *Kein Student will [\textsc{CP} dass man \text{one nom pours} den Wagen belädt ]

\(\text{no student wants that one the wagon loads}\)

b. Kein Student will [\textsc{CP} dass man \text{one nom pours} den Wagen mit ihm belädt ]

\(\text{no student wants that one the wagon with him loads}\)
2.3. Antipassive


- 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.

(44) Antipassive in Chukchee:
   a. Yemron-na qarir-arkon-in eok
      Yemron-ERG1 suchen-PRS-3.SG1.3.SG2 Sohn-ABS2
      ‘Yemron sucht seinen Sohn.’
   b. Yemron ine-lqarir-arkon (akka-gta)
      Yemron-ABS1 APASS-suchen-PRS.3SG1 (Sohn-DAT)
      ‘Yemron sucht (nach seinem Sohn).’

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)).

(45) Antipassive in German:
   a. Her mit {dem Geld / dem gestohlenen Geld / dem Geld, das PRT with the money\textsubscript{dat} the stolen money\textsubscript{dat} the money\textsubscript{dat} that du mir gestohlen hast}!
you me stolen have
   b. In den Müll mit {diesen Klamotten / diesen geschmacklosen into the garbage with these clothes these tasteless Klamotten / diesen Klamotten von H&M}!
clothes these clothes from H&M

Jacobs’ observation:
It is impossible to derive (45) by simple deletion.

(46) 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):
- $v\text{antipass}$ 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 $v\text{antipass}$ 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.

(47) Modification restrictions in regular transitives:
   a. Schmeiß den Krempel weg!
      throw the stuff\textsubscript{acc} away
   b. Schmeiß den Krempel schnell weg!
      throw the stuff quickly away
   c. *Schmeiß den Krempel sorgfältig weg!
      throw the stuff carefully away

(48) 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).

(49) 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}.
(50) **Downward accessibility, secondary predicates:**
   a. (i) Schmeiß das Buch$_1$ [PRO$_1$ ungelesen] in den Müll!
      throw the book$_{acc}$ unread into the garbage
   (ii) DP$_{int}$, [PRO$_1$ ungelesen] in den Müll (mit dem Buch$_1$)!
       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$_{int}$, [PRO$_1$ kalt] auf den Teller (mit dem Fleisch$_1$)!
       cold onto the plate (with the meat)
   (ii) DP$_{int}$, [PRO$_1$ ungeöffnet in den See (mit dem Paket$_1$)!
       unopened into the lake (with the parcel)
   (iii) DP$_{int}$, [PRO$_1$ mit Umschlag in die Tasche (mit dem Buch$_1$!
       with jacket into the bag (with the book)

(51) **Downward accessibility, bound variable pronouns:**
   a. Bringe/Tue jeden Spieler$_1$ in sein$_1$ Versteck!
      bring/put every player into his hiding place
   b. DP$_{int}$ in sein$_1$ Versteck mit jedem Spieler$_1$!
      into his hiding place with every player
   c. *Ich gehe in sein$_1$ Versteck mit jedem Spieler$_1$
      I go into his hiding place with every player
   d. *Ich gehe in sein$_2$/das Versteck mit jedem Spieler$_1$
      I go into his/her 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.

(52) **Upward inaccessibility, bound variable pronouns**
   a. Würf keinem Student$_1$ seine$_1$ Flaschen in den Biomüll!
      throw no student$_{dat}$ his bottles$_{acc}$ into the organic garbage
   b. DP$_{int}$ in den Biomüll mit seinen$_1$ Flaschen!
      into the organic garbage with his bottles
   c. *Keinem Student$_1$ DP$_{int}$ in den Biomüll!
      no student$_{dat}$ into the organic garbage
   d. *Keinem Student$_1$ in den Biomüll mit seinen$_1$ Flaschen!
      no student$_{dat}$ into the organic garbage with his bottles

(53) **Upward inaccessibility, critical 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

(54) **Upward inaccessibility, anaphoric binding:**
   a. Er$_1$ schmeißt sich$_1$ in die Bäuche!
      he throw$_{subj}$ him$_{acc}$ into the bushes
   b. Schmeiß (du) ihn$_1$ in die Bäsche!
      throw (you$_{nom}$) him$_{acc}$ into the bushes
   c. *DP$_{ext}$, DP$_{int}$ in die Bäsche mit sich$_1$
      into the bushes with him$_{acc}$
   d. DP$_{ext}$, DP$_{int}$ in die Bäsche mit ihm$_1$
      into the bushes with him

Note:
DP$_{int}$ in (54-c) is not accessible to a co-indexed DP$_{ext}$ that is later introduced by v (given that Remove is triggered by V).

3. Removal of V: Reanalysis

Existing approaches to reanalysis phenomena (where movement is not an option):
- unconstrained reanalysis rules (Bach & Horn (1976), Chomsky (1977) on extraction from NP; Chomsky (1981) on S-bar deletion with ECM constructions)

3.1. Restructuring in German
3.1.1. Arguments for Monoclausality of Restructuring Infinitives
Lit.:

(55) **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.

(56) **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

(57) **Two readings for (57-a), one for (57-b):**
a. "Sie was forced to do nothing."
b. "She did not have to do anything."
c. "She 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.

(58) **III. Scrambling across matrix material:**
a. weil sich1 der Oberförster1 t1 rasierten wolle
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
because the head forester REFL shaved to have doubted

d. *weil sich1 der Oberförster1 bezweifelte | t1 rasiert zu haben |

Note:
Scrambling in German is strictly clause-bound.

(59) **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

(60) **IV. Status government ("verbal case assignment"):**
a. als wir Ede singen hören
when we Ede sing heard
b. weil Beate Ede anrufen will
because Beate\(_{nom}\) Ede\(_{acc}\) call wants

c. weil Beate Ede angufen haben wird
because Beate\(_{nom}\) Ede\(_{acc}\) called have will
d. weil das Wetter gut zu werden scheint
because the weather good to become seems

(61) **Status ("verbal cases"):**
a. first status: auessen (bare infinitive)
b. second status: aufzessen (zu-infinitive)
c. third status: aufgeessen (past participle)

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

(62) **V. Pied piping of infinitives:**
a. die Ratten, die zu fangen Hubert sich vorgenommen hatte
the rats which to capture Hubert REFL planned had
b. *die Ratten, die Hubert fangen Günther ließ
the rats which Hubert capture Günther let

c. *die Ratten, die zu fangen Günther scheint
the rats which to capture Günther seems

(63) **VI. Verb (projection) raising (incl. Ersatz-infinitive):**
a. weil wir Ede hatten singen hören
because we Ede had sing hear
b. weil Beate Ede wird anrufen wollen
because Beate\(_{nom}\) Ede\(_{acc}\) will call want

c. weil er das Land nicht wird haben verlassen dürfen
because he the land not will have left may

(64) **VII. Intonation ("Grenzpause"):**
a. weil sie ihn zu küssen versuchte
because she him to kiss tried
b. weil sie versuchte ihn zu küssen
because she tried him to kiss

(65) **Consequence: structural ambiguity may arise:**
a. weil Regine mich anzufuhren versucht
because Regine me to call tries
b. weil mich Regine anzufuhren versucht only restructuring possible
because me Regine to call tries

c. weil Regine versucht mich anzufuhren no restructuring possible
because Regine tries me to call

3.1.2. **Arguments for Biclausality of Restructuring Infinitives**

(66) **VIII. Uniformity of embedding with verbs that optionally trigger restructuring:**
a. dass der Oberförster versuchte \( \text{CP dem Peter einen Film zu} \)
that the head forester tried the Peter\(_{dat}\) a film\(_{acc}\) to
empfehlen | recommend
b. dass sie [CP dem Peter einen Film zu empfehlen | versuchte
that she the Peter\textsubscript{dat} a film\textsubscript{acc} to recommend tried
c. dass ihm\textsubscript{1} der Oberförster | dem Peter zu empfehlen | versuchte
that him the head forester the Peter\textsubscript{dat} to recommend tried

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

(67) 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 [CP 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).

(68) Overlapping binding domains with ECM in English (Büring (2005)):
  a. O’Leary\textsubscript{1} believes himself\textsubscript{1} to deserve the crown of England
  b. O’Leary\textsubscript{1} wants Georgina\textsubscript{2} to protect herself\textsubscript{2}
  c. *O’Leary\textsubscript{1} wants Georgina\textsubscript{2} to protect himself\textsubscript{1}

(69) X. No new binding domains with restructuring in German:
  a. Der Oberförster\textsubscript{1} hat ihm\textsubscript{2} sich\textsubscript{1} zu waschen versprochen
      the head forester has him\textsubscript{dat} REF\textsubscript{REFL} to wash promised
  b. *Der Oberförster\textsubscript{1} hat ihm\textsubscript{2} sich\textsubscript{2} zu waschen versprochen
      the head forester has him\textsubscript{dat} REF\textsubscript{REFL} to wash promised
  c. ?Der Oberförster\textsubscript{1} hat ihm\textsubscript{2} sich\textsubscript{2} im Spiegel gezeigt
      the head forester has him\textsubscript{dat} REF\textsubscript{REFL} in the mirror shown
      (Featherston & Sternefeld (2004))

Note: The reasoning in (20-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 (69-b), due to the presence of a CP (biclausality).

3.1.3. Analyses
Restructuring has been argued to involve:


Note:
(i) Evidence for monoclausality ⇒ inaccessibility of CP (TP, ...)
(ii) Evidence for biclausality ⇒ 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 sub-
   sequently peel off CP, TP, ... (i.e., [–C\textsubscript{0}], [–T\textsubscript{0}]).
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 (Faulselov
   (1991), Wurmbrand (2001)).
3. Operations that require the presence of CP (TP, ...) are checked before structure
   removal (they are counter-bled and counter-fed by structure removal): Subcatego-
   rization, Principle A (in German; see above), PRO licensing.
4. Other operations that argue for monoclausality apply afterwards (bleeding, feeding).

Note: 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).

(70) dass er dem Karajan will eine Arie können vorsingen
that he the Karajan\textsubscript{dat} wants an aria\textsubscript{acc} can sing
(71) **Intermediate stage of the derivation:** $V_3$ movement plus $V_3$ removal triggered by $[\neg V_0 \neg]$ on $V_2$

\[
\begin{array}{c}
\text{VP}_1 \\
\text{VP}_2 \\
\text{VP}_3 \\
\text{DP}_a \\
\text{DP}_b \\
\text{DP}_c \\
\end{array}
\]

$V_2$ movement plus $V_3$ removal triggered by $[\neg V_0 \neg]$ on $V_2$

\[
\begin{array}{c}
\text{VP}_1 \\
\text{VP}_2 \\
\text{VP}_3 \\
\text{DP}_a \\
\text{DP}_b \\
\text{DP}_c \\
\end{array}
\]

Note:
Subsequent movement of $V_2^\prime$ yields the right order.

3.2. **Extraction from Clauses**

(72) **Continuation:** $V_3$ removal (cf. (6))

\[
\begin{array}{c}
\text{VP}_1 \\
\text{VP}_2 \\
\text{VP}_3 \\
\text{DP}_a \\
\text{DP}_b \\
\end{array}
\]

3.2. Extraction from Clauses

(73) **Bridge verbs vs. non-bridge verbs:**

a. Wie du denkst dass das passiert ist $t_1$ ?
how do you think that this happened is

b. *Wie bedauerst du dass das passiert ist $t_1$ ?
how do you regret that this happened is

(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: $[\neg N_0 \neg]$

4. **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 $[\neg D_2 \neg]$ 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. (“Abortion”, in life-cycle metaphorical parlance involving life, death, and resurrection.)

4.1. **Adjectival vs. Verbal Passive**

  vgl. auch Williams (1981), Bresnan (1982), Levin & Rappaport (1986), etc.

- In German:
  Zustandspassiv vs. Vorgangspassiv (‘true Passiv’): two different passive auxiliaries.

(74) **Auxiliary selection:**

a. Die Geisslein sind/waren versteckt
   the goatslings are/were hidden

b. Die Geisslein werden/wurden versteckt
   the goatslings were/are hidden

(75) **By-phrases** (but see Maienborn (2010) for qualifications):

a. *Die Geisslein sind von niemanden versteckt
   the goatslings were by no-one hidden

b. Die Geisslein wurden von niemanden versteckt
   the goatslings were by no-one hidden

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

(76) **Temporal adverbials:**
a. Das Fenster ist seit gestern geöffnet (offen)
b. #Das Fenster wird seit gestern geöffnet

(77)  Un-Prefixation:
a. Das Fenster ist ungeöffnet
the window is unopened
b. *Das Fenster wird ungeöffnet
the window is opened

4.2. Object Drop

(78)  Object drop:
a. Karl ist schlecht
b. Hans photographiert gut

(79)  Control and implicit objects:
a. Das schöne Wetter lädt ein zu bleiben
b. *Gute Musik kann wieder miteinander versöhnenc. *Der Doktor untersucht nüchtern
d. *Hans photographiert im Sitzen

5. 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:
As a matter of fact, the only well-established constraint that Remove violates is the Projection Principle (Chomsky (1981)), which bans removal of thematically relevant structure. However, the Projection Principle has always been dubious since it can only be formulated as a global rule (Lakoff (1971)); and it is clear that it cannot be maintained in a Merge-based approach for principled reasons.

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 [–F_0–] 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).
References


Collins, Chris (2005): A Smuggling Approach to the Passive in English, Syntax 8, 81–120.


