The Short Life Cycle of External Arguments in Passive Derivations

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1. Prelude

Claim:
“In a syntactico-centric theory of morphology, the addition of morphological material cannot produce the deletion of extant syntactic structure and thus explain the absence of the external argument.” (Harley (2013, 34))

Question:
Why should this be the case?

2. An Empirical Generalization

2.1. Downward Accessibility

Background:
There is evidence
- against a lexical approach to passive (as in Höhle (1978), Chomsky (1981), Bresnan (1982), Wunderlich (1993), Müller (2007), Kiparsky (2013)), and
- against a syntactic approach to passive where the external argument is not accessible at any point (as in Bruening (2012), Hole (2014))
- in support of a syntactic approach to passive where the external argument is accessible (as in Chomsky (1957), Perlmutter and Postal (1983), Baker et al. (1989), Sternefeld (1995), Collins (2005), Schäfer (2012a), Alexiadou and Doron (2013), Harley (2013), Merchant (2013), Georgi (2014b)).

The evidence comes from constructions that show that the external argument is syntactically accessible (see Roberts (1987), among others). (The external argument is rendered as $\text{DP}_{\text{ext}}$ in what follows.)

2.1.1. Control by $\text{DP}_{\text{ext}}$, 1: Purpose Clauses

(1) Control into purpose clauses:
   a. Das Schiff wurde $\text{DP}_{\text{ext}}$ versenkt $|_{\text{CP PRO}_1}$ um die Versicherung zu collect the ship was sunk in order the insurance to kassieren $|$ to collect
   b. Der Reifen wurde $\text{DP}_{\text{ext}}$ aufgepumpt $|_{\text{CP PRO}_1}$ um die Fahrt the tire was inflated in order the journey fortzusetzen $|$ to continue

2.1.2. Control by $\text{DP}_{\text{ext}}$, 2: Secondary Predicates

(2) Subject-oriented secondary predicates:
   a. Die Daten wurden $\text{DP}_{\text{ext}}$ [SC PRO$_1$ nackt] analysiert the data were naked analyzed
   b. Das Handout wurde $\text{DP}_{\text{ext}}$ [SC PRO$_1$ übermüdet] verfasst the handout was tired written
   c. Er wurde [SC PRO$_1$ absichtlich] [ein Fehler gemacht] it was deliberately a mistake made
   d. Dort wird [SC PRO$_1$ freiwillig] gearbeitet there is voluntarily worked

2.1.3. Binding Theory

(3) Principle A:
   a. Hier wurde $\text{DP}_{\text{ext}}$ sich$_1$ nicht geprügt here was REFL not hit
   b. Es wurde $\text{DP}_{\text{ext}}$ einander$_1$ gedankt it was each other thanked

(4) Principle C:
   a. *Gestern wurde $\text{DP}_{\text{ext}}$, Fritz$_1$ eingeladen intended reading: ‘Yesterday, Fritz invited himself.’
   b. ??Gestern wurde $\text{DP}_{\text{ext}}$, Fritz$_1$ [PP von sich$_1$] [selbst] geschlagen yesterday was Fritz by himself self hit

Side remark:
The English analogues of (4-ab) are both excluded as Strong Crossover violations in Baker et al. (1989).

(5) Strong Crossover:
   a. *They$_1$ were kill-PASS$_3$, Fritz$_1$
   b. *They$_1$ were kill-PASS$_3$, Fritz$_1$ [PP by themselves$_1$]

Assumption in Baker et al. (1989):
Strong crossover effects can be derived from the constraints on chain formation in Rizzi (1986). However, strong crossover cannot be involved in (4-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).

2.1.4. Generalization

Conclusion:
Assuming the external argument in passive constructions to show up in Specv, the effects in (1)–(4) suggest the following generalization.
2. Downward Accessibility Generalization:
The external argument in passive constructions (DP_{ext}) is accessible for items below 
\( v' \).

2.2. Upward Inaccessibility

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: DP_{ext} means that DP_{ext} seems to be inaccessible.)

2.2.1. Bound Variable Interpretation

Unavailability of binding in impersonal passives:

a. *Kein Student glaubt [CP dass DP_{ext} gut gearbeitet wird] 
   no student believes that well worked is 

b. Kein Student glaubt [CP dass DP_{ext} [PP von ihm] gut gearbeitet wird] 
   no student believes that by him well worked is 

Unavailability of binding in personal passives:

a. *Er hat den meisten Lehrern1 erzählt [CP dass DP_{ext}URNS der Maria 
   he has the most teachers1 told that the Maria 
   Bücher geschenkt werden sollen] 
   books given are should 

b. Er hat den meisten Lehrern1 erzählt [CP dass [PP von ihnen1] DP_{ext} 
   he has the most teachers1 told that by themselves 
   der Maria Bücher geschenkt werden sollen] 
   the Maria books given are should 

Note:
Assuming extremely local existential binding of external arguments in passive 
contexts would do the job here, but this would be just a restatement of the facts: 
Locality of existential binding follows from nothing, and given optional by-phrases, 
existential binding cannot be obligatory either. As a matter of fact, approaches that 
build existential binding deeply into the working of passivization (rather than 
treating it as a default interpretation procedure) invariably need two lexical 
entries for what is clearly one and the same passive morpheme: one for by-phrases, 
and one for existential binding (see, e.g., Bruening (2012)).

2.2.2. Criterial Movement

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

Non-overt material and movement:

a. Wer glaubt [CP du hat Recht] 
   who think you is right 

b. Ich habe schon gesehen heute 
   I have already seen today 

2.2.3. Control of DP_{ext}

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

Unavailability of control into impersonal passives:

a. *Er versucht [CP DP_{ext} gearbeitet zu werden] 
   he tries to work been 

b. *weil [CP bald DP_{ext} geschlafen zu werden] gewünscht wird 
   because soon slept to be wished is 

2.2.4. Minimality

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.

Unavailability of movement of DP_{ext} in passive constructions:

a. *Ich denke [CP DP_{ext} ist gut gearbeitet worden] 
   I think is well worked been 

b. Ich denke [CP [PP von ihr] ist gut gearbeitet worden] 
   I think by her is well worked been 

c. Ich denke [CP es ist DP_{ext} gut gearbeitet worden] 
   I think it is well worked been 

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.
Subject movement in passive constructions in English:
\[ \text{[TP John2 was [\text{VP} \text{DP}_{\text{ext}2} [\text{v} \text{VP} \text{t1 killed t2}]]_RE]} \]

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

Optional subject movement in active constructions in German:

1. dass es3 [\text{VP der Fritz1 dem Karl3 t2 gegeben}] hat
   that \text{it}_{\text{acc}} the Fritz\text{nom} the Karl\text{dat} given has

2. dass der Fritz1 \text{es3} [\text{VP t1 dem Karl3 t2 gegeben}] hat
   that the Fritz\text{nom} \text{it}_{\text{acc}} the Karl\text{dat} given has

3. *dass der Fritz1 dem Karl3 \text{es2} [\text{VP t1 t3 t2 gegeben}] hat
   that the Fritz\text{nom} the Karl\text{dat} \text{it}_{\text{acc}} given has

4. *dass dem Karl3 der Fritz1 \text{es2} [\text{VP t1 t3 t2 gegeben}] hat
   that the Karl\text{dat} the Fritz\text{nom} \text{it}_{\text{acc}} given has

Optional subject movement in passive constructions in German:

1. dass der Karl2 \text{ihr3} [\text{VP [\text{DP}_{\text{ext}2} [\text{v} \text{VP} \text{t3 t2 vorgestellt}]]} \text{v}] wurde
   that the Karl\text{nom} her\text{dat} introduced was

2. dass ihr3 [\text{VP [\text{DP}_{\text{ext}2} [\text{v} \text{VP} \text{t3 der Karl2 vorgestellt}]]} \text{v}] wurde
   that her\text{dat} \text{the} Karl\text{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.

Collins’s (2005) proposal:
Smuggling: A constituent including DP_{ext} and V (the PartP, alternatively: VP) moves to a higher position (SpecVoice), across DP_{ext}, and DP_{ext} 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).

Constituency in double object constructions → intraposition:
1. \text{[VP John2 was [\text{VP DT2 [\text{v} \text{VP} \text{t1 killed t2}]}}}]

Non-constituent movement with 'by'-phrases (‘it can optionally pied-pipe a preceding preposition’):
1. By \text{[\text{who} the book given to Mary}]_1 unused
2. *By to Mary \text{[\text{who} the book given to Mary}]_2 unused

2.2.5. Anaphoric Binding
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 AIC construction with lassen in (18) (Pitteroff (2014)). (German AIC constructions sometimes permit long-distance reflexivization, but this effect only shows up with PP's; cf. Reis (1976), Gunkel (2003), Barnickel (2014). Also, binding by the matrix subject in (18-c-i) cannot be due to raising of sich to the matrix clause because sich can participate in VP topicalization.)

(18) a. Der König1 lässt [\_nom \text{DP}_{\text{ext}2} sich_{1/2} rasieren] the king\text{nom} lets \text{REFL} shave
b. Der König1 lässt [\text{act} die Dienstler sich_{1/2} rasieren] the king\text{nom} lets \text{the servants} \text{REFL} shave

2.2.6. Higher Adjunct Clauses
Unavailability of control into adjunct clauses that are higher than purpose clauses (McCawley (1984), Chomsky (1986) vs. Roberts (1987)):
1. *Sophia Lorenz2 was \text{DP}_{\text{ext}2} seen [\text{CP} while PRO1 enjoying oneself1]
2. Sophia Lorenz2 was [\text{CP while PRO2 enjoying herself2}]

Note:
Movement of DP_{ext} might make control into non-c-commanded domains possible but seems to be systematically unavailable.

2.2.7. Generalization
Conclusion:
Assuming again that the external argument in passive constructions would show up in Specv, the effects in (8), (10), (19) and (11) suggest the following generalization.

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 (21) emerges.

Accessibility Generalization:
DP_{ext} in passive constructions in accessible from below and inaccessible from above.
Note:
This does not follow under any syntactic approach without further stipulations.

3. A Conceptual Consideration

Assumption (Epstein and Seely (2002), Müller (2011)):
In a strictly local derivational approach with cyclic LF and PF spellout, there are neither syntactic reasons for postulating traces/copies/occurrences (they would not be accessible by syntactic constraints anyway), nor semantic reasons for postulating traces/copies/occurrences (semantic interpretation also applies cyclically).

Consequence:
Movement leaves nothing in the original position, and tree pruning applies (see Ross (1967)). From this perspective, it becomes necessary to postulate an operation Cut that takes an item out of the structure before it remerges it at the root. (Cf. the first step of sideward movement in Nunes (2004), Hornstein (2009).)

(22) A typology of structure-manipulating operations:
- Merge
- Cut
- Move = Cut + Merge

Prediction:
There should be instances of bare structure-removing Cut; this operation is the mirror image of bare structure-building Merge (Chomsky (2001; 2008)).

Question:
Would removing existing structure not violate many fundamental constraints?

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.)

(23) Projection Principle:
- If A selects B as a lexical property, then A selects B in C at level L_i.
- If A selects B in C at level L_i, then A selects B in C at level L_j.

(24) A consequence of the Projection Principle:
- What_1 did John [VP see what_1 ]?
- *What_1 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 (24-b) is an impossible S-structure representation, we have to know that there is an object DP within VP at an earlier derivational stage.

Suggestion:
Passive is brought about by syntactic Cut operations.

Side remark:
(i) Standard cases of ellipsis presumably do not involve Cut operations since there is typically evidence for the existence of syntactic structure here; Cut removes such structure.
(ii) Potential instances of Cut operation: grammatical-function changing, reanalysis phenomena

Background assumptions (see Heck and Müller (2007), Müller (2011), Georgi (2014a), among others):
(i) All syntactic operations are feature-driven

(25) Four types of features that drive operations:
- Pure structure-building: Merge  
- Pure structure-removal: Cut  
- Structure-removal plus structure-building: Move  
- Probe features: Agree:

(26) Structure-building features of v:
[•\V•] ≻ [•\D•]

(27) Last Resort:
- Every syntactic operation must discharge (and delete, or render inaccessible) either [αFo] (where α ranges over •, –, and •− ) or [∗F∗].
- Only features at the top of a feature list are accessible.

4. The Passive

4.1. Analysis

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

(28) **Transitive passive constructions:**
- dass \( \text{DP}_{\text{ext}} \) das Buch \( _{2} \) gelesen wurde that the book\text{nom} read was
- Lexicon: \( v: [\text{aVP}] \rightarrow [\text{aDP}] \rightarrow [\text{acc}] \)
- Numeration: \( v: [\text{aVP}] \rightarrow [\text{aDP}] \rightarrow [\text{D}] \rightarrow [\text{acc}] \)

(29) **Scarcity of case features:**
A head assumes that the number of DPs and case features is balanced; undoing the effect of a \( [\text{D}] \) feature by discharging a \( [-D] \) feature therefore invariably implies removal of a \( [\text{case}] \) 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 Preminger (2011)).

(30) **A passive derivation:**
- \( v: [\text{aVP}] \rightarrow [\text{aDP}] \rightarrow [-D-] \rightarrow [\text{acc}], [\text{VP} \text{ das Buch gelesen }] \)
- \( [v^\prime : [\text{aVP}] \rightarrow [-D-] \rightarrow [\text{acc}], [\text{VP} \text{ das Buch gelesen }] ] \)
- \( v : [\text{aVP}] \rightarrow [\text{aDP}] \rightarrow [-D-] \rightarrow [\text{acc}], [\text{VP} \text{ das Buch gelesen }] ] \)
- **Syntactic activity of \( \text{DP}_{\text{ext}} \):** a short life cycle in which control and binding of c-commanded items can be accomplished
- \( [v^\prime : [\text{aVP}] \rightarrow [\text{aDP}] \rightarrow [-D-] \rightarrow [\text{acc}], [\text{VP} \text{ das Buch gelesen }] ] \)
- \( [v : [\text{aVP}] \rightarrow [\text{aDP}] \rightarrow [-D-] \rightarrow [\text{acc}], [\text{VP} \text{ das Buch gelesen }] ] \)

Note:
An alternative option may be to insert \( [-D-] \) below the case feature on \( v \)’s feature stack. In that case, transitive passives can arise, as in languages like Ukrainian, Northern Russian varieties, and Czech, where passivization does not imply absorption of structural accusative case. The reason is that DP removal comes too late to be able to induce case probe deletion on \( v \): There is no case feature left at this point.

(31) **Transitive passives in Ukrainian:**
- Cerkv-a bul-a zbudova-n-a v 1640 roc’i church-NOM/FEM build-PASS-FEM in year 1640 ‘The church was built in 1640.’
- Cerkv-u bul-o zbudova-n-o v 1640 roc’i church-AKK/FEM build-PASS-NEUT in year 1640 ‘The curch was built in 1640.’

4.2. **Life**

(32) **Control:**
- Das Schiff wurde \( \text{DP}_{\text{ext}} \) versenkt \( [\text{CP} \text{ PRO}_1 \text{ um die Versicherung zu} \text{int} \text{V} \text{in order the insurance to} \text{collect}] \)
- Die Daten wurden \( \text{DP}_{\text{ext}} \) [\text{SC} \text{ PRO}_1 \text{ nackt} \text{analyisiert the data were naked} \text{analyzed}]

(33) **Control in passive derivations**
- Merge(\( v, \text{VP} \))
- \( v: [-D-] \rightarrow [\text{acc}], [\text{VP} \text{ das Buch gelesen }] ] \)
- Control by \( \text{DP}_{\text{ext}} \): Merge(\( \text{DP}_{\text{ext}}, v^\prime \))
- Counter-Bleeding of control by \( \text{DP}_{\text{ext}} \): Cut(\( \text{DP}_{\text{ext}}, v^\prime \))
d. **Case probe removal**

![Diagram of Case probe removal]

**Note:**
Cut 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* (see Chomsky (1951), Kiparsky (1973)). The output representation is opaque because it is not clear how control can have applied successfully – there is no controller left at this point.

(34) **Binding:**
   a. Hier wurde DP_{ext} sich_{1} nicht getrügelt
      here was REF1 not hit
   b. *Gestern wurde DP_{ext}, Fritz_{1} eingeladen
      yesterday was Fritz invited 
      intended reading: ‘Yesterday, Fritz invited himself.’

(35) **Binding in passive derivations**
   a. Merge(v,VP)

   ![Diagram of merge]

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

   ![Diagram of reflexivization]

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

   ![Diagram of counter-bleeding]

   d. **Case probe removal**

   ![Diagram of case probe removal]

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

4.3. **Death**

(36) **Binding from above:**
   a. *Kein Student_{1} glaubt [CP dass gut gearbeitet wird ]
      no student believes that well worked is
   b. *Er hat den meisten Lehrern_{1} erzählt [CP dass der Maria
      he has the most teachers_{dat} told that the Maria_{dat}
      Bücher geschenkt werden sollen ]
      books_{nom} given are should

(37) **Bound variable interpretation in passive derivations**
   a. Merge(DP_{ext},v')

   ![Diagram of bound variable interpretation]
4.4. Voice and v

Side remark:
It would 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

Subject raising respects Minimality:

\[ \text{TP} \text{John}_2 \text{was} \left\{ vP \underset{\vdash}{\text{[v}\cdot\ldots\text{vP killed }t_2]} \right\} \]

Minimality in passive derivations

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

\[
\begin{array}{c}
\text{DP}_{\text{ext}} \\
\text{vP} \\
\ Mahmoud \\
\text{vP} \\
\text{vP} \\
\end{array}
\]

\[
\begin{array}{c}
\text{vP} \\
\text{vP} \\
\text{vP} \\
\end{array}
\]

b. Cut(DP\text{ext}, v^\prime)

c. Case probe removal

d. Bleeding of binding of embedded DP\text{ext}:

\[
\begin{array}{c}
\text{vP} \\
\text{vP} \\
\text{vP} \\
\end{array}
\]

(38)

(39)
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 and McFadden (2014))
- syntactic evidence based on ellipsis of verbal categories under identity (Merchant (2013))

(40) **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) \[vP \_vP^pass \ [vP \_vP^look-into this problem \]]
   \[vP \_vP^act \ [vP \_vP^look-into this problem \]]

b. (i) *They sell Hyundais in Greece because Hondas don’t
   (ii) \[vP \_vP^act \ [vP \vP^sell Hyundais \]]\]
   \[vP \_vP^middle \ [vP \vP^sell \]]

**Plus:**
In Merchant’s vP ellipsis analysis, it is not quite clear how the two vPs can qualify as sufficiently identical in (40-a), given that \(D_{ext}^P\) is a variable bound by nobody in one case, and a variable that is existentially bound in the other case.

5. **Consequences**

5.1. **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.

(41) **Recipient passive in German:**

a. dass der **Fritz** der Maria das Buch geschenkt hat.
   that the Fritz\_nom the Maria\_d at 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\_d at the book\_nom given is
d. *dass der **Maria** das Buch geschenkt bekommt (*kriegt*).
   that the Maria\_d at the book\_nom given gets
e. *dass der **Maria** das Buch geschenkt wird.
   that the Maria\_nom the book\_acc given is

(42) **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

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

a. hier wird keiner geholfen.
   here is no-one\_nom 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.

(44) **Features of \(v\) for double object contexts:**

\(v:\{V\_d\} \succ \{D\_d\} \succ \{\_d\_at\} \succ \{\_a\_cc\}\)

**Proposal:**

- in German, \([-D-]\) may either be inserted directly above \([\_d\_at\_]\), or it may be inserted directly above \([\_a\_cc\_]\).
- 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).

(45) **Features of passive \(v\) for double object contexts:**

a. \(v:\{V\_d\} \succ \{D\_d\} \succ \{\_d\_at\} \succ \{\_a\_cc\}\)

b. \(v:\{V\_d\} \succ \{D\_d\} \succ \{\_d\_at\} \succ \{\_a\_cc\}\)

**Note:**
In order to correctly determine passive auxiliary selection (*bekommen* selects a vP headed by (45-a); *werden* selects a vP headed by (45-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.
5.2. Intransitive Constructions

(46) 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:

\[-D-\] on v does not intrinsically stipulate that it is the external argument DP_{ext} that is removed as a consequence of Cut, 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 (there is no counter-cyclic Merge into embedded domains).

(47) Strict Cycle Condition (Chomsky (1973)):
    Within the current XP \( \alpha \), a syntactic operation may not exclusively target a position that is included within another XP \( \beta \) that is dominated by \( \alpha \).

Consequence:

- The sole DP argument of an unergative verb can be removed via \([-D-]\) on v since it is located in Specv, and execution of Cut does not violate the Strict Cycle Condition.
- The sole DP argument of an unaccusative verb cannot be removed via \([-D-]\) on v since it is located within VP, and execution of Cut would violate the Strict Cycle Condition.

6. The External Argument: Resurrection

\textbf{Note:}

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

\textbf{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 \([-D-]\), 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.

\textbf{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_{ext} 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).

7. A Conclusion

Modelling passive by Cut 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 \([D*]\) and discharge of \([-D-]\) on one and the same head.


