Hidden universal quantification and change of argument structure in German particle verbs

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Overview

Introduction
- The phenomenon
- Challenging data

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- ground-promotion and Split-P hypothesis

Aktionsart
- Hidden universal quantification without ground promotion
- Aktionsart difference in ’Ground Promotion’ constructions and verbal constructions with HUQ

Unmentioned construction types with HUQ

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**introductory example**

- **Farbe** (paint) **an (at)** **eine Wand** (a wall) **streich** (paint)
- **Farbe** **an** **eine Wand** **an (at) streich**
- **eine Wand** **an** **streich**
- **Farbe** **von (of)** **einem Pinsel** (brush) **streich**
- **Farbe** **von** **einem Pinsel** **ab (off) streich**
- **einen Pinsel** **ab** **streich**
How the phenomenon has been referred to

1. in terms of lexical argument structure: **unpredicated particles**
   (Levin and Sells 2007) *Farbe dran* (paint is at wall) vs. *Wand dran* ;(*wall is at)*’ vs. ‘*Farbe ab’; (’paint off’) vs. *Pinsel ab* (’*brush is off’)

2. in terms of syntactic operation ’**Ground Promotion’**
   Ground is promoted. The DP that bears P-case in verb plus PP construction gets structural accusative
   Figure is demoted: *eine Wand mit Farbe anstreichen* (McIntyre 2007)

   Experts (almost) agree in the holistic interpretation, accomplishment, — if they make it an issue.
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1. restrictions and 'fake'-alternations

<table>
<thead>
<tr>
<th>Figure</th>
<th>P</th>
<th>Ground</th>
<th>prct.</th>
<th>vP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farbe(paint)</td>
<td>auf</td>
<td>eine Wand</td>
<td></td>
<td>streich</td>
</tr>
<tr>
<td>Farbe</td>
<td>auf</td>
<td>eine Wand</td>
<td>auf</td>
<td>streich</td>
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<tr>
<td></td>
<td></td>
<td>eine Wand</td>
<td>auf</td>
<td>streich</td>
</tr>
<tr>
<td>Papier(paper)</td>
<td>an</td>
<td>eine Wand</td>
<td>kleb (glue)</td>
<td></td>
</tr>
<tr>
<td>Papier</td>
<td>an</td>
<td>eine Wand</td>
<td>an</td>
<td>kleb</td>
</tr>
<tr>
<td></td>
<td></td>
<td>eine Wand</td>
<td>an</td>
<td>kleb</td>
</tr>
<tr>
<td>Wein(wine)</td>
<td>aus(out)</td>
<td>dem Fass(barrel)</td>
<td>lauf (run)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>aus</td>
<td>dem Fass</td>
<td>aus</td>
<td>lauf (run)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>das Fass</td>
<td></td>
<td>lauf</td>
</tr>
<tr>
<td>Leute(people)</td>
<td>aus(out)</td>
<td>dem Stadion(stadium)</td>
<td>lauf (run)</td>
<td></td>
</tr>
<tr>
<td>Leute</td>
<td>aus</td>
<td>dem Stadion</td>
<td>hinaus</td>
<td>lauf (run)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>das Stadion</td>
<td>aus</td>
<td>lauf</td>
</tr>
</tbody>
</table>

*Kleister* in eine Tapete(wall-paper) ein streich

*Kleister* in eine Tapete ein streich
2. difference in status of the unmentioned discourse referents

a. # Before you drink you need to wipe any/the fingerprints off
   (cf. Before you drink from a glass, you need to wipe any/the fingerprints off.)
   (Levin and Sells 2007)

b. Before you drink you need to wipe the glass off

[...] the interpretation of the unexpressed material, unlike the unexpressed location, does not depend on context. Examples with unexpressed material [Figure, A.R.] are felicitous even in absence of (adequate) context, unlike examples with unexpressed location [Ground, A.R] [...] We have no explanation for this observation [...] (Levin and Sells 2007)

- Proposal for 1. and 2. and Data:
  - Sketch of my analysis

a. → 'Ground'-argument of off is presuppositional.
   b. → 'Figure'-argument of off is bound by hidden universal quantification through off: For all sub-parts of the surface of the glass there is stuff that ends off.
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syntax-semantics-interface: word-syntax and DRT

- roots in context of functional heads: the basis for the composition of meaning of words and phrases at the syntax-semantics interface
- all argument slots are generated from roots and functional heads, the functional head determines the ontological class of the root
- ’merge’: typically λ-conversion
- syntactic principles: Split-P Hypothesis (Svenonius 2003) (relying on (van Riemsdijk 1990))
Split-P hypothesis; case theory: structural analogies in the prepositional and the verbal domain
simplest case: semantics construction of verb plus PP (detail)

einen Klecks Farbe an eine Wand streichen
a blob of paint at a wall paint
presupposition generated by particle

- presupposed ground discourse referent $z$ resolved in $pP: z := z_1$
- unify $r_{at}(z)$ and $r_{at}(z_1)$
sentence representation, involving Comp $\gg$ T(ense) $\gg$ asp $\gg$

Voice $\gg$ v

ein Mann strich einen Klecks Farbe an
a man paint.praet a blob of paint at

$y_1 \text{ ran}(z) x_1 e'$' s ec t

ec $\subseteq$ t
t $<$ n
ec $=$ e'$\oplus$s
$x_1 =$ agent(e') man(x$_1$) blob-o-p(y$_1$)
PAINT(e')
e' CAUSE s
s:y$_1$ rel r$_{at}$(z)

- presupposed Ground discourse referent z to be contextually bound in discourse context
- Figure DP quantised, accomplishment: ec $\subseteq$ t
  Figure DP non-quantised, activity: t $\subseteq$ e
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syntactic (non)-solution: particles as unaccusative prepositions

(Svenonius 2003) (Svenonius 2007)

Ingrid smeert henna in haar haar

Ingrid smeert haar haar in (met henna)

John opens the door

the door opens
My solution: \( p \) is silent; \( p \) is a passive; \( p \) houses a hidden operator

\[
\text{Ingrid} \quad \text{ihr} \quad \text{Haar} \quad \text{einschmiert} \\
\text{Ingrid} \quad \text{her} \quad \text{hair} \quad \text{in.smear.}
\]

\[
\text{Ingrid} \quad \text{Henna} \quad \text{in} \quad \text{ihr} \quad \text{Haar} \\
\text{Ingrid} \quad \text{henna} \quad \text{in her hair} \\
\text{(hin)einschmiert} \\
\text{(deix.)in.smear}
\]
zooming in: the silent HUQ-operator

\[ \rho_{\text{pass}} p \]

\[ \langle z_1, r_1, s, \text{wall}(z_1) \mid r_1 = r_{\text{at}}(z_1) \quad s: \square \diamond \square \rangle \]

\[ \rho_{\text{pass}} \emptyset \]

\[ \lambda r. \langle s, y^i s^i \mid r^i \subseteq r \mid \forall r^i \mid s^i: \text{HAVE}(y^i, r^i) \rangle \]

\[ \langle z_1, r_1, \text{wall}(z_1) \mid r_1 = r_{\text{at}}(z_1) \rangle \]

\[ \langle z_1, \text{wall}(z_1) \rangle \]

\[ \lambda z. \langle r_1, r_1 = r_{\text{at}}(z) \rangle \]

\[ \lambda r. \lambda z. \langle r = r_{\text{at}}(z) \rangle \]

\[ \sqrt{\text{an}} \]

\[ \emptyset \]

\[ \langle r_1, \square \rangle \]

\[ \langle z_1, \text{wall}(z_1) \rangle \]

\[ \langle z_1, r_1, \text{wall}(z_1) \rangle \]

\[ \langle z_1, r_1, s, \text{wall}(z_1) \rangle \]

\[ r_1 = r_{\text{at}}(z_1) \]
HUQ operator: applicatum/applicandum-relation

- HUQ: $\sqrt{streich}$ event $e$ is a finite sum of sub-events $e_i$ such that $e_i$ results in $s_i: \text{HAVE}(y^i,r^i)$. Ideally each portion $y^i$ ends up at its sub-region $r^i$.

- How \text{HAVE} makes itself felt

  saddle a horse horse has (no) saddle (on its back); corral a horse; horse in corral; Wand hat (keine) Farbe (dran); Pinsel hat (keine) Farbe (dran); Fass hat (keinen) Wein (drin); Glas hat (keine) Fingerabdrücke dran (dran); N.B. Tourist hat (kein) Geld (dabei) in einen Touristen ausrauben (rob everything of value from a tourist)

# Stadion hat (keine) Leute drin;
HUQ operator can impose and must respect requirements

- **HUQ** rejects the **support** P-element \( \sqrt{\text{auf} \atop \text{auf}} \)
  \( \downarrow, \uparrow \) \((y,z)\)
  SUPPORT \(<\text{entity,entity}>\)

- **HUQ** is rejected by verbal kernels that select support.
- **HUQ** is rejected by verbal kernels incompatible with application or removal
- **HUQ** operator is ’generous’ as for the selected P-elements
governed HUQ, governing HUQ

- **Fass auslaufen** (run out barrel), **Bild mit Bäumen ausmalen** (fill in frame with trees) **Backform mit Butter ausstreichen** (butter a baking tin (fully)), **Teller aufessen** (finish the food on the plate)
alternations, ’fake’-alternations and otherwise brought about states of application

<table>
<thead>
<tr>
<th>ein</th>
<th>Regal einräumen (book in shelves)</th>
<th>*Stadion einlaufen (≈people in stadium)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Tapete mit Kleister einstreichen (≠ glue in w-p.)</td>
<td></td>
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<tr>
<td></td>
<td>Fass / Wanne einlaufen lassen (fluid in barrel,tub)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>*Stadion einlaufen (≈people in stadium)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fass / Wanne auslaufen (≠ fluid in barrel,tub)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>*Stadion auslaufen (≈ people in stadium)</td>
<td></td>
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<tr>
<td></td>
<td>Schublade mit Papier auslegen (≠ (paper in drawer), paper at interior surface of drawer)</td>
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</tr>
<tr>
<td></td>
<td>Kind ausziehen (≠ (garnment in child))</td>
<td></td>
</tr>
<tr>
<td></td>
<td>≈ garnment. off child</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Touristen ausrauben (rob everything of value)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Wand mit Farbe anstreichen (paint at wall)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Kind mit Klamotten anziehen (garnment. at child)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Silberlöffel anlaufen (oxid at silver spoon)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tisch abräumen (plate off table)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pinsel abstreichen (paint off brush)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bett abziehen (pull sheets off bed)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>*Bett abreiß en (rip sheets off bed)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reifen abfahren (rubber off wheels)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Kartoffeln abgießen (water off potatoes)</td>
<td></td>
</tr>
</tbody>
</table>

- taking stock: ’Ground Promotion’ constructions aren’t alternates to verb plus-PP constructions generally
- verbal kernels in HUQ constructions (i) semantically select for <applicatum,applicandum>-pairs or else (ii) describe events that bring about a state where an applicatum,applicandum-relation obtains
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Data and prediction

a. Jussi ließ Wein / einen Liter Wein lief aus dem Fass laufen
   Jussi let wine / one litre of wine out of the barrel run

b. Jussi ließ Wein / einen Liter Wein (aus dem Fass) auslaufen
   Jussi let wine / one litre of wine (out of the barrel) out.run

c. Jussi ließ ein Fass auslaufen
   Jussi let a barrel outrun

c. is an accomplishment. This seems unexpected in the light of
   (Beavers 2009). Central for the theory is a three-pace-relation \( \Theta(e,y,p) \), the
   Figure/Path-relation in motion descriptions.
A motion description is telic if the source (or goal) is explicit and the Figure
description quantised.
c. source explicit, figure implicit no puzzle: c. is no motion description:

a'. Jussi ließ Wein / einen Liter Wein aus einem Fass in einen Krug laufen
   Jussi let wine / a litre of wine out of a barrel into a jug run

c' * der Öltank lief in das Auffangbecken aus
   the oil tank ran into the catch basin out.prtc.

- c. is a 'fake' alternation wrt. a. and b.
ground-promotion: Two mutually dependent incremental themes

- Ground Promotion constructions express events with a special property: sub-event by sub-event, the pre-determined amount of applicatum decreases and the pre-determined amount of sub-regions of the applicandum to be applied as well.

- the event can be either ascribed as telic change in the applicatum — using verb plus PP with quantised DP in P-case or particle verb — or else as telic change in the applicandum, using a Ground Promotion construction
more semantic details

In context $s^0: \neg\text{HAVE}(y^i, r^i)$ evokes the implicature 'y\textsuperscript{i} belongs to r\textsuperscript{i}', e.g. ein Regal einräumen, Umzugswagen einräumen, (?) Auto einräumen, (?) Wäschekorb einräumen
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Hidden universal quantification without application

weil Jussi den Wein austrank
because Jussi the wine out.drank

'because Jussi finished the wine’
HUQ and sequential achievements

Universal quantification gives rise to the last drop of wine \( y^i \) in *den Wein austrinken*; the last chapter, paragraph or line in *das Buch auslesen*

- in order for an event to be truly described as *ein Buch auslesen* the reading must follow the order of the chapters
HUQ and sequential achievements

<table>
<thead>
<tr>
<th>Event Structure</th>
<th>Time Structure</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \text{ein Buch lesen} )</td>
<td>( \text{ein Buch auslesen} )</td>
</tr>
<tr>
<td>( e = e' \uplus_E e'' )</td>
<td>( e' &lt;_E e )</td>
</tr>
<tr>
<td>( E \leftrightarrow P )</td>
<td>( \tau(e') \prec_t \tau(e \setminus e') )</td>
</tr>
</tbody>
</table>
| \( \tau \)

**Definition of \( \prec_{t,P} \).** Let \( y' \) be a mereological proper part of \( y'' \), i.e. \( y' <_P y'' \).

\( y' \prec_{t,P} y'' \) iff \( y' \) and \( y'' \) are naturally determined to be theme in \( e \) in the temporal order \( \prec_t \) of run-time \( \tau(e) \)

(Roßdeutscher 2012)
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'ground promotion' constructions aren’t sequential achievements

e. weil Jussi den Wein trank
weil Jussi den Wein nicht trank
weil Jussi den Wein (nicht) weitertrank

| simple telic; quantised incremental theme; (non) continuation of interrupted accomplishment. |
|---|---|

d. weil Jussi den **Wein** austrank
weil Jussi den **Wein** nicht austrank
# weil Jussi den **Wein** weiter austrank
# weil Jussi den Wein weiter **austrank**
# weil Jussi den Wein **weiter** austrank

| HUQ over one quantised incremental theme; down to the minimal amount of wine; sequential achievement |
|---|---|

weil Jussi das **Glas** austrank
weil Jussi das **Glas** nicht austrank
weil Jussi das Glas nicht **austrank**
weil Jussi das Glas **weiter** austrank
weil Jussi die **Schüssel** ausleckte
weil Jussi die **Schüssel** nicht ausleckte
weil Jussi die Schüssel nicht **ausleckte**
weil Jussi die Schüssel **weiter** ausleckte

| HUQ over parts of interior of glass, bowl; contrastive intonations evoke correction readings; no sequential achievement; |
|---|---|

weil Jussi das Fass auslaufen ließ
weil Jussi das Fass nicht auslaufen ließ
weil Jussi das Fass nicht **auslaufen ließ**
weil Jussi das Fass weiter auslaufen ließ

| HUQ over parts of interior of the barrel; reading with non-accomplished termination with contrastive intonation only. |
|---|---|

weil Jussi den Touristen ausgeraubt hat
weil Jussi den Touristen nicht ausraubt hat
weil Jussi den Touristen nicht **ausgeraubt hat**
weil Jussi den Touristen **beraubt, aber nicht ausgeraubt hat**
weil Jussi die Tapete be**strichen**, aber nicht eingestrichen hat
weil Jussi die Wand be**strichen**, aber nicht angestrichen hat.
weil Jussi die Wand weiter angestrichen hat

| HUQ over bounded surface regions; correction reading with special intonation |
|---|---|
Speculation

- Decisive for the sequential achievement reading of particle verbs with HUQ is a temporal ordering in the mereological structure of the denotation of the variable quantified over.

`ein Buch auslesen`  
*the last paragraph, page, line*

`ausschlafen` *(to sleep until you have slept enough)*  
*the lowest degree of sleeping stamina*

`eine Banane ausreifen lassen` *(banana out.ripe)*  
*the highest degree of ripeness*

`ein Fahrzeug auslasten`  
*the maximal load (for the vehicle)*

`eine Wand anstreichen`  
*the ??? sub-region of the wall*

- regions of applicanda don’t give rise to accommodate a pre-determined order to undergo application or removal
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prefix-verbs and de-nominal verbs

- eine Wand (mit Farbe) über streichen

  a wall (with paint) over.prfx.paint

  'to cover a wall with paint'

- einen Schreibtisch (mit Papieren) über decken

  a desk (with papers) over.cover

  'to cover a desk with papers'

- ein Kind (mit Babyöl) einölen

  a child (with baby-oil) ein.prtc.oil

  'cover the skin of a child with oil'

- no 'Ground Promotion’ to be observed, except mit-phrases with bare DPs
- the reason: prefix-verbs are constructions with an ’unaccusative’ prepositional domain. There is no p-head. The ground DP leaves the P-projection for case reasons.
- the silent HUQ is a head within the prepositional domain of the prefix
Conclusion

- ‘Ground Promotion’ constructions aren’t alternations of verb plus PP- or particle-verb constructions, but constructions on their own ground
- their semantics involve universal quantification and an applicatum/applicandum-relation.
- the constructions differ in Aktionsart from HUQ over variables that are different from regions
- semantics composition is reconstructed in the Stuttgartian framework that combines principles of word-syntax with DRT

(Rossdeutscher 2013a), (Rossdeutscher 2013b)
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References
References I

- author.
  - title
- author and rohtua.
  - title


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