

## The Syntactic (Mis-)behaviour of German Particle Verbs

### An Experimental Study

33. Jahrestagung der DGFS \* Universität Göttingen \* 23.-25. Februar 2011  
AG 7 Wort oder Phrase? \* Antje Heine & Joachim Jacobs

## Introduction

- Verbal *prefixes*: unstressed, non-separable

(1) a. er'reichen

b. Der FC Bayern erreichte am Ende doch noch all seine Ziele.

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## Introduction

- Verbal *particles* (henceforth V-ptcs): stressed, separable

(2) a. 'durch.reichen

b. Borussia Mönchengladbach reichte man in dieser Saison bis ans Tabellenende durch.

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## Categorisation?

- V-ptcs are productive bases for derivational word formation:

(3) a. Einladung, Einreise, Abholung, anlötbar, Aufsetzer  
...

b. \*Auf-(einen/den)-Wagen-Ladung, \*In-ein-Land-Reise, ?Nach-Hause-Reise, ...

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## Categorisation?

- V-ptcs can be placed in the *prefield*:

(4) a. Auf geht die Sonne im Osten, aber unter geht sie im Westen. (Lüdeling 2001: 53)

b. Sehr nahe ging dem Prinzen der Verlust seines Kanarienvogels. (ibid. 54)

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## Categorisation?

- V-ptcs can have *modifiers*:

(5) weil sie ihn dadurch etwas besser kennen.lernen konnten

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## Categorisation?

- Are the V-ptcs syntactic heads (Olsen 1997) or even parts of words (Stiebels & Wunderlich 1994) treated as phrases by syntax only sometimes?
- Are they hybrids that are conceptualised both as heads and as phrases (Zeller 2003: 190)?
- Do they form a category of a third kind (Ackermann & Webelhuth 1998: 336f.)?
- Are they a borderline case between words and phrases (Jacobs & Heine 2008: 3ff; Heine & al 2010: 55ff.) in a transitional area between word- and sentence-grammar (Eisenberg 1998: 268)?

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## Variation and restrictions

- (6) a. Zurück kehrten sie erst am nächsten Tag.  
(Jacobs & Heine 2008: 2)
- b. \*Wieder kehrten sie erst am nächsten Tag.
- (7) a. ?Lieben hatte sie ihn nun doch noch gelernt.
- b. \*Kennen hatte sie ihn nun doch noch gelernt.

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## Variation and restrictions

- (8) a. weil sie das Parkett /zu blank gebohnt haben  
(vgl. Jacobs & Heine 2008: 2)
- b. \*weil sie ihn dadurch /zu bloß stellen würde
- (9) a. ?Ein weiteres Mal hinterher wollten sie es ihm nicht schicken.
- b. \*Ein weiteres Mal nach wollten sie es ihm nicht schicken.

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## Variation and restrictions

- Two groups of V-ptcs?
- (10) a. dass Sie ihn nun sogar noch etwas mehr lieben.gelernt hatte
- b. dass sie ihn nun noch etwas besser kennen.gelernt hatte
- (11) a. ?Sogar noch etwas mehr lieben hatte sie ihn gelernt.
- b. \*Noch etwas besser kennen hatte sie ihn gelernt.

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## Variation and restrictions

- Is there a satisfactory explanation for the non-uniform behaviour of these particles?
- Why are many sentences with moved particles neither clearly grammatical nor clearly ungrammatical but often to be regarded as marked?

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## Variation and restrictions

- **Strong assumption:** real V-ptcs are heads within complex predicates.
  - If apparent V-ptcs occur in a non-base-position of a clearly grammatical sentence, they are in fact heads of phrases functioning as adverbials.
- (12) a. dass [PP diese Straße entlang] nach acht Uhr niemand alleine gehen würde.
- b. [AdvP In diesen Briefkasten hinein] würde niemand einen Brief ?(ein).werfen.

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## Competence and performance

! However, under certain circumstances, speakers tend to accept sentences that are not produced by regular application of the relevant structure building operations – iff they are able to interpret them.

➤ What circumstances?

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## Competence and performance

- (13) a. ?Vor haben sie es nicht gehabt. (≈ Vorgehabt haben sie es nicht.)<sup>[1]</sup>  
b. \*Auf ist ihm gar nichts gefallen. (≈ Aufgefallen ist ihm gar nichts.)
- (14) a. ?Ein haben sie das Heu geladen, aus das Stroh.  
b. \*Ein haben sie die Banker geladen, aus die Linguisten.

[1] *Pars-pro-toto movement* according to Fanselow (2004: 25).

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## Competence and performance

- (15) A: \*Wie/was haben sie es nicht gehabt?  
B: \*Vor.
- (16) \*Wie/wo/(??was) haben sie nun das Heu geladen?  
Ein oder aus?

- Even though there may be a logical potential of (discourse) semantic interpretation, there is not necessarily a corresponding grammatical structure.
- Speakers may be influenced by factors like focus, potential contrastiveness or by the assignment of a pseudo-interpretation.

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## Competence and performance

- *Restricted prefield placement* (Heine & al. 2010: 7ff.)

- (17) a. An fing alles am 2. Januar 1889, als . . .  
(Heine & al. 2010: 4)
- b. Kennen lernten sich die beiden Mitte der 80er Jahre (. . .)
- c. Richtig auf regt mich im Moment, wie der arme Gomez von den Medien fertig gemacht wird . . .

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## Competence and performance

- These ptc's cannot actually move away from the verb:

- (18) a. \*An hatte alles am 2. Januar 1889 gefangen, als . . .  
b. \*Kennen haben sich die beiden Mitte der 80er Jahre (. . .) gelernt.  
c. \*Richtig auf hat mich geregt, wie der arme Gomez von den Medien fertig gemacht wird.

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## Competence and performance

- (19) *Licensing of 'Constructions'*  
(Öhl 2009: 73; Öhl & Falk, *to appear*)

- competence-based, by regularly applied structure building operations
- performance-based, by paralleling to regular structures, if decoding conflicts can be resolved (locally?) in the linear structure

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## Competence and performance

- (20)
- a. weil wir das Licht also vor allem Nachts anschalten
  - b. [VP Anschalten] werden wir das Licht also vor allem nachts.
  - c. [AdvP An] schalten wir das Licht etwa genau so oft, wie aus.
  - d. [AdvP An ] wird das Licht erst wieder geschaltet, wenn wir gar nichts mehr sehen!
- (21)
- a. weil 1998 alles anfang
  - b. [VP Anfangen ] wird alles erst sehr viel später.
  - c. ?[?P An ] fing alles 1898.
  - d. \*[AdvP An ] hatte alles 1898 gefangen.

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## Criteria to test

### (22) Criteria for V-PTCs in the Prefield ?

- semantic transparency
- discourse semantic features
- phrasal status

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## Three Experiments: research questions

- Do these criteria license particle placement in non-default positions?
- What experimental evidence is provided to distinguish particles from regular phrasal elements in a sentence?
  - 1. Pilot experiment: particles/phrasal constituents in different field positions
  - 2. Methodological issues
  - 3. Modified particles vs. bare particles

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## 1. Pilot experiment

- Hypotheses:
  - Movement of phrasal constituents to the middlefield should be acceptable whereas particle movement should not
  - Movement to the prefield position should be acceptable with both phrasal constituents and particles as long as they fulfill some of the criteria (phrasal status, semantic transparency, discourse status)
  - Particles in non-acceptable positions should yield higher processing costs reflected

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## 1.1 Material – phrases vs. particles

- Test sentences: 16 simple sentences with the transitive verb *halten* 'hold'
- In the particle condition the verb is combined with a resultative semantically transparent adjectival particle:
  - *Ich habe die Box **sauber** gehalten*
  - *I – have – the – box – **clean** – held*
- In the phrasal constituent condition the verb is combined with an adjectival modal adverbial:
  - *Ich habe die Box **mühsam** gehalten*
  - *I – have – the – box – **with effort** – held*

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## 1.2 Material – topological factor

- Particles and phrasal constituents are at their default position (DEF) or moved to the beginning of the middlefield (MF) or to the prefield (PF)
- Particle/phrasal constituent topology
  - (1) Def: *Ich habe die Box sauber/mühsam gehalten.*
  - (2) MF: *Ich habe sauber/mühsam die Box gehalten*
  - (3) PF: *Sauber/mühsam habe ich die Box gehalten*

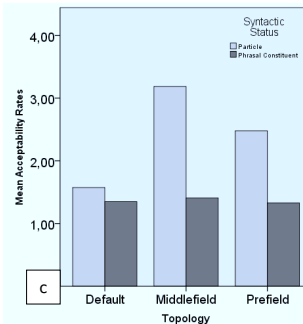
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### 1.3 Test design

- Word-by-word selfpaced-reading task (Just et al. 1982) (moving window) with acceptability judgement
- Reading times: Participants press a button after each word they've read to get the next word of the sentence
- Acceptability judgements: At the end of each sentence, participants are asked to give their acceptability judgement on a four-point scale (1=very acceptable, 2=acceptable, 3=less acceptable, 4=unacceptable)
- 32 students, 96 test sentences (16 in 2x3 conditions) in four lists + 102 fillers, randomized material

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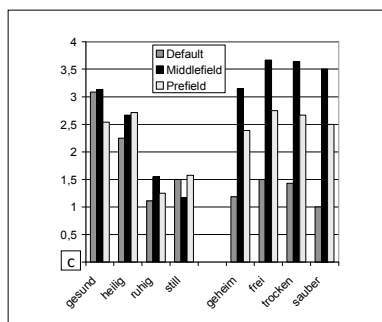
### 1.2 Results: acceptability of particles differs significantly according to topology



- Repeated-measures ANOVA: significant interaction Particle\*Topology:  $F=77.34$   $p<0.001$
- post-hoc MANOVA: highly significant results for topology in particle condition

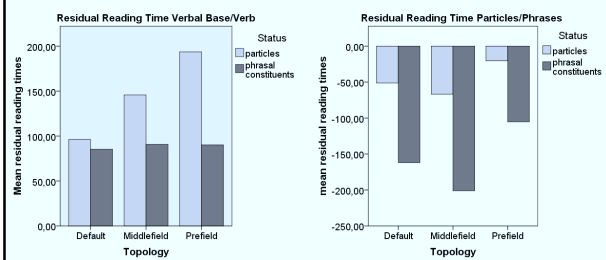
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### 1.3 Individual item behavior



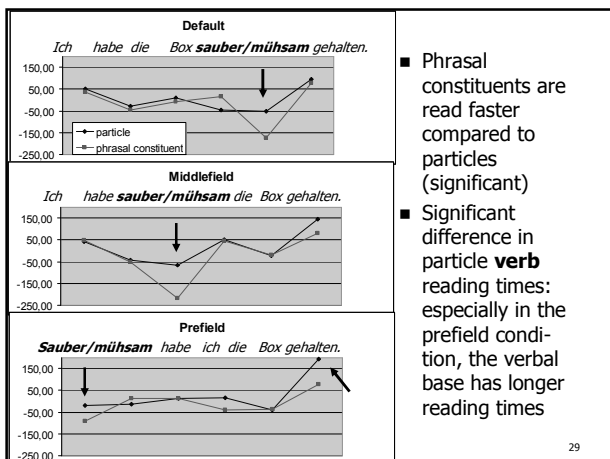
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### 1.4 Calculation of residual reading times (Ferreira & Clifton 1986)



(one subject & 3 items excluded)  
correlation of acceptability ratings and residual reading time of verbal base is significant:  $p<0.05$ ,  $r=0.308$  (Spearman Rho)

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- Phrasal constituents are read faster compared to particles (significant)
- Significant difference in particle **verb** reading times: especially in the prefield condition, the verbal base has longer reading times

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### 1.6 Discussion

- Particles differ from phrasal constituents when moved through the sentence -> they form a complex predicate
- Particles are least acceptable when fronted in the middlefield
- In the prefield, participants seemed to be uncertain about their status (intermediate value of acceptability)
- Especially in the prefield condition, integration of the sentence lasts longer with particle verbs

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## 1.8 Why are readers uncertain about the prefield condition?

- Verbal base 'hold' is somehow semantically bleached in particle contexts -> semantic transparency is not implemented optimally, both parts, verbal base and particle should be decomposable
- Discourse semantics/phrasal status may have been unclear because of lack of context

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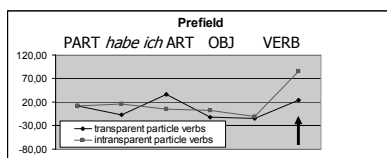
## 2.0 Methodological issues

- New Material: 8 verbs of Experiment 1 with verbal base *halten* 8 new semantically specified bases (e.g. *bügeln* 'to iron', *trinken* 'to drink')
- only reading time assessment
- after each sentence, participants had to answer a semantically related yes/no question
- calculation of residual reading times
- 38 subjects (4 excluded)

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## 2.1 Results: reading time only experiment

- Highly significant ( $p < 0.005$ ) differences between field positions (as in Experiment 1, prefield yields longer than expected reading times)
- Phrasal constituents read faster than particles (marginal significant  $p = 0.06$ )
- (non-significant) trend of semantically specified particle verbs to be read faster than bleached particle verbs



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## 3. Experiment: modification of the particle

- Assumption: modification of the particle enhances the perception of phrasal status/discourse semantics of the particle in the prefield
- Modification of particle vs. non-modification leads to better acceptability rates in the prefield

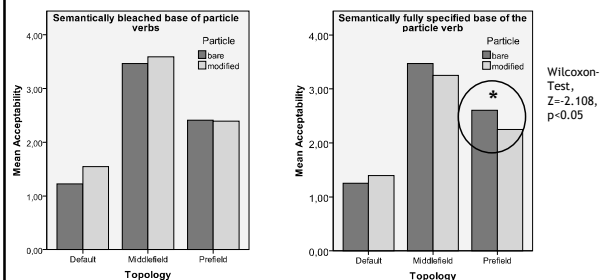
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## 3.1 Material (method as in Exp 1, 42 participants, material of Exp 2)

- Particle: bare/modified
  - I - have - the - glass - **empty/completely empty** - drunk
  - (1) Def: *Ich habe das Bier leer/ganz leer getrunken.*
  - (2) MF: *Ich habe leer/ganz leer das Bier getrunken*
  - (3) PF: *Leer/ganz leer habe ich das Bier getrunken*

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## 3.2 Results: significantly better acceptability judgments with modified particles in the PF with semantically specified verbs



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## Conclusions

- Particles differ significantly from phrasal constituents in acceptability and reading time:
  - they are nearly non-acceptable in the middlefield
  - readers assign them intermediate values in the prefield

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## Conclusions

- The criteria of semantic transparency and discourse markedness play a role in explanation of particle processing:
  - Reading times tend to be longer at the verbal base with semantically bleached particle verbs
  - Verb + particle have to be decomposable for a particle becoming more acceptable in the prefield when modified (enhanced discourse status)

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## Competence and performance: future research

- In future research, we aim at a notion of markedness systematically differentiated according to the axes *competence* and *performance*.
- How do listeners resolve structures that can not be explained by grammatical rules? When must conflicts be resolved locally?

- (24)
- a. weil 1998 alles anfang
  - b. [VP Anfangen ] wird alles erst sehr viel später.
  - c. ?[?P An ] fing alles 1898.
  - d. \*[AdvP An ] hatte alles 1898 gefangen.

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## Discussion

! If markedness in the distribution of V-ptcs may be explained on the level of performance, it does not call for an explanation by means of grammatical rules.

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## Discussion

! Are we explaining away markedness as a phenomenon of performance?

➤ **No!** In contrast, we are aiming at a notion of markedness systematically differentiated according to the axes *competence* and *performance*.

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## Discussion

▪ Supporting evidence from other phenomena: acceptance of irregular structures lacking alternatives (*Grammatical Illusions?* cf. Haider, in prep.)

- (i) Wir hoffen, dass wir haben helfen können.  
(IPP, obligatorische Umstellung)
- (ii)
- a. \*Wir hoffen, helfen gekonnt zu haben.  
(kein IPP, keine Umstellung)
  - b. \*Wir hoffen, helfen können zu haben.  
(IPP, aber keine Umstellung)
  - c. \*Wir hoffen, helfen zu haben können.  
(IPP und irreguläre Umstellung mit zu)
  - d. \*Wir hoffen, zu haben helfen können.  
(IPP und irreguläre Umstellung mit zu)
  - e. \*Wir hoffen, haben helfen können zu.  
(IPP und irreguläre Stellung von zu)

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## Discussion

- (iii)
- a. ?Wir hoffen, geholfen haben zu können
  - b. ?Wir hoffen, helfen haben zu können.
  - c. ?Wir hoffen, haben helfen zu können.
  - d. ??Wir hoffen, geholfen gehabt zu können.

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## Discussion

- (iv) a. Dass der Faust-Mythos in Deutschland zuerst in der Oper auf die Bühne gelangte, *besagt* etwas über ihn *aus*.

(Handout 'Faust – Mythos und Musik'; LMU München, WiSe 10/11)

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## Discussion

- (v) a. ??Dass der Faust-Mythos in Deutschland zuerst in der Oper auf die Bühne gelangte, *besagt* etwas über ihn *aus*.

(Handout 'Faust – Mythos und Musik'; LMU München, WiSe 10/11)

- b. \* . . . , soll etwas über ihn *ausbesagen*.

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