There Are No Constructions

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Algorithmen und Muster: Strukturen in der Sprache

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Constructions

(1) **Construction:**
A linguistic expression $\Gamma$ is a construction if (a) and (b) hold.

a. There is evidence that $\Gamma$ is composed of smaller parts $\alpha_1 - \alpha_n$.
b. The formal or functional properties of $\Gamma$ cannot be determined on the basis of the properties of $\alpha_1 - \alpha_n$.

Prototypical constructions: **idioms**

Standard assumption in rule-based grammars:

1. $\Gamma$s that are constructions belong in the **lexicon**.
   - The unpredictable properties of constructions must be captured by special lexical rules (Chomsky (1980)), or by postulating listed syntactic objects (Di Sciullo & Williams (1987), Jackendoff (1997)).

2. $\Gamma$s that are not constructions are generated in a **rule-based part of a grammar**.
   - If the properties of a linguistic expression are fully predictable on the basis of the properties of its components, the linguistic expression does not exist in the lexicon but is derived by grammatical rules (in the structure-building components morphology and syntax).
State of Affairs

Conceptual problem: an inhomogeneous theory, with two possible sources for complex linguistic expressions: lexicon vs. grammatical rules.

Radical ways out:

- The **role of constructions is strengthened** (Jackendoff (1997, 2002), Culicover & Jackendoff (2005)), such that constructions may cover most, or even all, of what is traditionally derived by rule-based systems (Ackerman & Webelhuth (1998), Goldberg (2003, 2006), Tomasello (2003), among many others).

- The **role of rules is strengthened**, such that rules may cover most, or even all, of what is usually accounted for by invoking constructions.

Claim:

- Closer inspection of apparent constructions often reveals that rule-based accounts can and should be given after all, provided that grammatical rules are of a highly abstract nature.

- If this result can be generalized, the role of constructions may be minimal: Only **morphemes** are constructions (and need to be stored in the lexicon); all other linguistic expressions are derived by grammatical rules in morphology or syntax.
Double Articulation: Morphemes as Constructions

One of the defining properties of natural language (next to recursion; cf. Chomsky (1957), Hauser et al. (2002), Friederici et al. (2006)):

(2) **Double Articulation** (Martinet (1964), Eisenberg (2000), Williams (2005)): Linguistic expressions can be encoded at two different levels: They can be separated into minimal units that bear meaning (morphemes) and into minimal units that distinguish meaning (phonemes).

Double articulation ensures that discrete infinity can be gained on the basis of a very small inventory of primitive items.

Conclusion:
All morphemes (that consist of more than one phoneme) are constructions because although grammatical rules restrict the combination of phonemes into morphemes (phonology), the properties of a morpheme cannot be predicted on the basis of the properties of its parts, and morphemes must thus be stored.

Hypothesis (also see Marantz (1998), with “root” instead of “morpheme”): Only morphemes are constructions.
Overview

Four case studies from German:

- transformational deficiency: *dass Fersengeld von ihm gegeben wurde, dass ihm von ihr ein Korb gegeben wurde

- verbless directives: Nieder mit den Studiengebühren!

- clause structure parallelism: Halb zog sie ihn, halb sank er hin

- suppletive verb inflection: b-1-n, b-1-s-t

Result: In all four cases,

1. there is evidence that the relevant linguistic expressions are composed of smaller parts;
2. there are aspects of the form of the relevant linguistic expressions that look unpredictable at first sight;
3. closer scrutiny reveals that a rule-based account is both viable and empirically superior (because it correctly predicts restrictions on variation).

Note: There are many more cases that instantiate the same pattern; see, e.g., Müller (1997a) on binomial formation in German (klipp und klar vs. *klar und klipp).
Caveat

To prove such an approach viable, one must argue that both **formal** and **interpretational** properties of seemingly irregular linguistic expressions can be shown to be systematic after all.

I will have nothing interesting to say about the latter issue.


a. **spill the beans**:
   (i) **spill** means ‘divulge’ in the context of **beans**
   (ii) **beans** means ‘information’ in the context of **spill**.

b. **kick the bucket**:
   (i) **kick** can mean ‘die’ in the context of **bucket**.
   (ii) **bucket** is an expletive in the context of such a **die** (or the identity function).
   (iii) **the** is an expletive in the context of an expletive (other cases of expletive articles: nominal predicates).

My main focus is on **formal properties of complex linguistic expressions** in the morphology and syntax of German that seem to resist rule-based accounts.
Introduction

Background Assumptions

Assumption:

- with **local optimization** procedures (Heck & Müller (2000, 2003, 2007)) and

(4) **Organization of Grammar**:

a. lexicon: list of morphemes, no rules
b. numeration: selection of morphemes, enrichment of morphemes with non-inherent features, derivational morphology, composition
c. syntactic derivation: Merge, Move, Agree plus optimization of all XPs (XPs as cyclic nodes); perhaps also parts of derivational morphology, composition
d. inflectional morphology
e. (phonological realization, semantic interpretation)
Features and Derivations

(5) **Two types of features that drive operations** (Heck & Müller (2006); based on Adger (2003), Roberts & Roussou (2002), Sternefeld (2006)):
   a. Structure-building features (edge features, subcategorization features) trigger (external or internal) Merge: [●F●]
   b. Probe features trigger Agree: [*F*].

(6) **Last Resort (LR):**
   Every syntactic operation must discharge either [●F●] or [*F*].

(7) **Feature Condition (FC):**
   A feature [●F●] or [*F*] on X must be discharged before XP can be embedded (or become a final root).
The Phenomenon

Idioms resist transformations to various degrees.

Implicational generalization:
If an idiom $\alpha$ dominates an idiom $\beta$ on the opacity hierarchy, and transformation $\delta$ can affect $\alpha$, then $\delta$ can also affect $\beta$.

(8) a. Opacity hierarchy:
\[ XP_{opaque} > XP_{semi-opaque} > XP_{semi-transparent} > XP_{transparent} \]

b. Integrity Hierarchy:
Intact $\succ$ affected

(9) A transformation affects an XP iff it applies to a proper subpart of XP. (Movement out of XP makes XP incomplete and thereby always affects it.)

Note:
The Opacity hierarchy encodes a taxonomy of idioms arrived at in the Soviet school of phraseology (Vinogradov (1946; 1947), Šanskij (1972), Černiševa (1970)).

(10) Soviet taxonomy of idioms:
   a. Frazeologičeskije sraščenija (“Phraseologische Fügungen”)
   b. Frazeologičeskije edinstva (“Phraseologische Ganzheiten”)
   c. Frazeologičeskije cočetanija (“Phraseologische Verbindungen”)
   d. Frazeologičeskije vyraženija (“Phraseologische Ausdrücke”)
Idiom Classes

(11) **Idiom classes in German:**

a. **Opaque VPs:**
   Fersengeld geben, Fraktur reden, Bauklötze staunen

b. **Semi-opaque VPs:**
   den Stier bei den Hörnern packen, die Flinte ins Korn werfen, Feuer fangen, den Vogel abschießen, ins Gras beißen, den Löffel abgeben

c. **Semi-transparent VPs:**
   einen Korb geben, goldene Brücken bauen, die Suppe versalzen, ins Handwerk pfuschen

d. **Transparent VPs:**
   (i) light verb constructions: zur Aufführung bringen, in Verbindung stehen, Prüfung unterziehen
   (ii) reanalysis constructions: Buch lesen (vs. zerstören), Film sehen (vs. widmen)

How are idiom classes determined if semantic interpretation of idioms is always compositional?
(i) number of separate contextually determined meanings
(ii) number of contextually determined expletives
(12) **Verb-Second:**

a. Fritz gab\textsubscript{1} gestern Fersengeld \textsubscript{t}\textsubscript{1}
Fritz gave yesterday heel money

b. Sie packte\textsubscript{1} den Stier bei den Hörnern \textsubscript{t}\textsubscript{1}
she seized the bull at the horns

c. Sie gab\textsubscript{1} ihm einen Korb \textsubscript{t}\textsubscript{1}
she gave him a basket

d. Maria las\textsubscript{1} ein Buch \textsubscript{t}\textsubscript{1}
Maria read a book

(13) **Topicalization:**

a(?/Fersengeld\textsubscript{1} hat der Fritz \textsubscript{t}\textsubscript{1} gegeben
heel money has ART Fritz given

b. Den Stier\textsubscript{1} hat sie \textsubscript{t}\textsubscript{1} bei den Hörnern gepackt
the bull has she at the horns seized

c. Einen Korb\textsubscript{1} hat sie ihm \textsubscript{t}\textsubscript{1} gegeben
a basket has she him given

d. Ein Buch\textsubscript{1} hat Maria \textsubscript{t}\textsubscript{1} gelesen
a book has Maria read
Transformational Deficiency 2

(14) **Passive:**
   a. *daß Fersengeld₁ vom Fritz t₁ gegeben wurde*  
      that heel money by ART Fritz given was
   b. *daß der Stier₁ von ihr t₁ bei den Hörnern gepackt wurde*  
      that the bull by her at the horns seized was
   c. *daß ihm ein Korb₁ von ihr t₁ gegeben wurde*  
      that him a basket by her given was
   d. *daß ein Buch₁ von Maria t₁ gelesen wurde*  
      that a book by Maria read was

(15) **Internal modification:**
   a. *daß Fritz geliehenes Fersengeld gegeben hat*  
      that Fritz borrowed heel money given has
   b. *daß sie den großen Stier bei den Hörnern gepackt hat*  
      that she the big bull at the horns seized has
   c. *daß sie ihm einen ganz schönen Korb gegeben hat*  
      that she him a quite nice basket given has
   d. *daß Maria ein neues Buch gelesen hat*  
      that Maria a new book read has
Transformational Deficiency 3

(16) **Wh-Movement:**

a. *Was für ein Fersengeld\(_1\) hat der Fritz \(t_1\) gegeben?*
   what for a heel money has ART Fritz given

b. *Was für einen Stier\(_1\) hat sie \(t_1\) bei den Hörnern gepackt?*
   what for a bull has she at the horns seized

c.(?) *Was für einen Korb\(_1\) hat sie ihm \(t_1\) gegeben?*
   what for a basket has she him given

d. *Was für ein Buch\(_1\) hat Maria \(t_1\) gelesen?*
   what for a book has Maria read

(17) **Left dislocation:**

a. *Fersengeld\(_1\) das wollte der Fritz \(t_1\) geben*
   heel money that wanted ART Fritz give

b. *Den Stier\(_1\) den hat sie \(t_1\) bei den Hörnern gepackt*
   the bull that has she at the horns seized

c. *Einen Korb\(_1\) den hat sie ihm \(t_1\) gegeben*
   a basket that has she him given

d. *Ein Buch\(_1\) das hat Maria \(t_1\) gelesen*
   a book that has Maria read

**Variation:** “Our intuitions in this domain are ... robust and ... consistent across speakers” (Nunberg, Sag & Wasow (1994, 507)). “Idioms, more than most aspects of language, vary enormously from speaker to speaker. [...] What is important is that the general claims about idioms ... hold true for each speaker” (Frazer (1970, 23)).
VP Idioms as Constructions?

State of affairs:

- VP idioms are evidently composed of smaller parts: individual words, sometimes even open slots (der Hafer x sticht, x’s Schäfchen ins Trockene bringen, in x’s Fußstapfen treten, steht in x’s Hand, mit x’s Meinung nicht hinter dem Berg halten, es x geben).

- Still, it looks like the property of transformational deficiency cannot be derived systematically.

Question:
Do we need have to assume that German VP idioms are syntactic constructions?

Answer:
Probably not. The restrictions, and the implicational generalization underlying the data, follow from simple, non-construction-specific principles if minimalist grammars permit local optimization.
Harmonic Alignment

(18) **Harmonic Alignment** (Prince & Smolensky (1993, 136)):
Suppose given a binary dimension $D_1$ with a scale $X > Y$ on its elements \{X,Y\}, and another dimension $D_2$ with a scale $a > b > ... > z$ on its elements \{a,b,...,z\}. The **harmonic alignment** of $D_1$ and $D_2$ is the pair of Harmony scales $H_X, H_Y$:

a. $H_X$: $X/a \succ X/b \succ ... \succ X/z$

b. $H_Y$: $Y/z \succ ... \succ Y/b \succ Y/a$

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

a. $C_X$: $*X/z \gg ... \gg *X/b \gg *X/a$

b. $C_Y$: $*Y/a \gg *Y/b \gg ... \gg *Y/z$

(19) a. **Opacity hierarchy:**

$XP_{opaque} > XP_{semi-opaque} > XP_{semi-transparent} > XP_{transparent}$

b. **Integrity Hierarchy:**

Intact $> affected$

(20) **Harmonic alignment:**

a. $H_{in.}: XP_{op/in.} \succ XP_{s-op/in.} \succ XP_{s-tr/in.} \succ XP_{tr/in.}$

b. $H_{aff.}: XP_{tr/aff.} \succ XP_{s-tr/aff.} \succ XP_{s-op/aff.} \succ XP_{op/aff.}$

(21) **Constraint alignment:**

a. $C_{in.}: *XP_{tr/in.} \gg *XP_{s-tr/in.} \gg *XP_{s-op/in.} \gg *XP_{op/in.}$

b. $C_{aff.}: *XP_{op/aff.} \gg *XP_{s-op/aff.} \gg *XP_{s-tr/aff.} \gg *XP_{tr/aff.}$
Analysis

Proposal:
The generalization concerning transformational deficiency follows from the fact that constraints that trigger transformations are interspersed with the subconstraints of the $C_{aff}$. hierarchy.

Analysis:
The features that trigger the respective transformations are interspersed with the subconstraints of $C_{aff}$ that was created by harmonically aligning the Opacity hierarchy and the (binary) Integrity Hierarchy.

(22) Ranking in German:

\[
\begin{align*}
[\bullet fin\bullet], [\bullet top\bullet] & \succ *XP_{op/aff.} \\
[\bullet pass\bullet] & \succ *XP_{s-op/aff.} \\
[\bullet wh\bullet], [\bullet mod\bullet] & \succ *XP_{s-tr/aff.} \\
[\bullet ld\bullet] & \succ *XP_{tr/aff.}
\end{align*}
\]

Ineffability: In cases where feature discharge would have to violate a higher-ranked harmonic alignment constraint demanding that an XP is not affected by a transformation, it can be assumed that either the in-situ (or unaffected) candidate, or the empty output is the optimal candidate; the derivation then breaks down.
Conclusion

Harmonic alignment captures implications: If a given item $\alpha$ on a scale $\Sigma$ has property $\delta$, then any item $\beta$ that is lower on $\Sigma$ than $\alpha$ also has $\delta$.

(23) **Dividing lines across idioms:**

a. Verb-second, topicalization: all
b. Passive: opaque vs. semi-opaque, semi-transparent, transparent
c. Wh-Movement: opaque, semi-opaque vs. semi-transparent, transparent
d. Left dislocation: opaque, semi-opaque, semi-transparent vs. transparent

Main point:

1. There is evidence that VP idioms in German are composed of smaller parts: **word status, exceptions to transformational deficiency**.
2. However, the properties of the VP idioms (in particular, their transformational deficiency) can be determined on the basis of the properties of the individual lexical items: A **rule-based approach is possible**, and well motivated because it derives the implicational generalization that if an idiom $\alpha$ dominates an idiom $\beta$ on the opacity hierarchy, and transformation $\delta$ can affect $\alpha$, then $\delta$ can also affect $\beta$.
3. **Conclusion:** VP idioms in German are **not syntactic constructions**.
The Phenomenon

Observation (Jacobs (2008)):
Verbless directives in German (which instantiate “directional-resultative predication”) have properties that seem to resist a rule-based approach; at least at first sight, they look like clear cases of syntactic constructions.

(24) **Adverb-‘mit’-directive construction:**
   a. Her mit {dem Geld / dem gestohlenen Geld / dem Geld, das du mir gestohlen hast}!
   b. Weg mit dem {Krempel / dem alten Krempel / dem alten Krempel auf dem Speicher}!
   c. Nieder mit {den Studiengebühren / den sozialfeindlichen Studiengebühren / den sozialfeindlichen Studiengebühren für Erstsemester}!

(25) **PP-‘mit’-directive construction:**
   a. In den Müll mit {diesen Klamotten / diesen geschmacklosen Klamotten / diesen Klamotten von H&M}!
   b. Zur Hölle mit {dieser Regierung / dieser unfähigen Regierung / dieser Regierung, die keines ihrer Versprechen gehalten hat}!

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A Similar Construction

(26) **Adverb-PP-directive construction:**

a. Raus aus {meinem Haus / meinem frisch renovierten Haus}!
b. Hinein ins {Vergnügen / große Badevergnügen / große Badevergnügen in der Kurtherme Bad Sassendorf}!

Note:
I will ignore this case because it can be analyzed in terms of ellipsis without too much ado.

(27) a. Geh raus aus meinem Haus!
    b. Spring hinein ins Vergnügen!
Problems for a Rule-Based Approach

Dilemma (Jacobs (2008)):

1. An approach to mit-directive constructions in terms of ellipsis does not seem viable because the source is ungrammatical.

2. An approach to mit-directive constructions in terms of structure-building rules does not seem viable because it would require implausible assumptions.

(28) ‘mit’-directive construction:

a. Her mit {dem Geld / dem gestohlenen Geld / dem Geld, das du mir gestohlen hast}!

b. In den Müll mit {diesen Klamotten / diesen geschmacklosen Klamotten / diesen Klamotten von H&M}!
The Ellipsis Approach and Its Failure

Jacobs (2008, 26):
“Diese Probleme lassen sich übrigens nicht dadurch aus der Welt schaffen, dass mein verblose Direktiva auf zugrundliegende vollständige Sätze zurückführt, indem man ein unhörbares Imperativ-Verb postuliert. Dagegen spricht unter anderem die Inkompatibilität aller in Frage kommenden Verben mit als Thema-Argument interpretierten mit-Phrasen.”

(29) **Ellipsis analysis of adverb-‘mit’-directives:**
   a. *Gib (geh, trag, bring, ...) her mit dem Geld!
   b. *Bring (...) weg mit dem Krempel!
   c. *Mach (...) nieder mit den Studiengebühren!

(30) **Ellipsis analysis of PP-‘mit’-directives:**
   a. *Schmeiß (...) in den Müll mit diesen Klamotten!
   b. *Schick (...) zur Hölle mit dieser Regierung!
The Structure-Building Approach

(31) **Lexical entries:**

   a. *raus*: \{[Adv], [root], [\*P:mit\*]\}
   b. *mit*: \{[P], [\*D\*], [\*dat\*]\}
   c. *dem*: \{[D], [dat], [\*N\*], [\*dat\*]\}
   d. *Köter*: \{[N], [dat]\}

(32) **A possible structure for ‘mit’-directives:**

```
              AdvP_{root}
               /   \                
              /     \               
Adv_{root}   PP               
   /  \        
raus  P                  
     |       
     |       
mit    DP               
     |       
     |       
dem    NP               
        |                 
        |                 
        |                 
        dem  Köter
```
Failure of the Structure-Building Approach 1

Four problems identified by Jacobs:

1. irregular behaviour of adverbs with respect to subcategorization
2. problems with illocutionary force
3. irregular meaning assignment to adverbs
4. problems with required head status of adverbs

**Problem 1:**
Normally, adverbs do not subcategorize other items (incl. PPs). In (33), choice of P is free, which shows that the adverb does not carry out subcategorization/selection.

(33) dass Peter {raus auf die Wiese / in den Garten / zur Haltestelle} lief

**Problem 2:**
In a compositional interpretation, it must be the adverb that contributes the *directive operator* \( \text{DIR} \) that encodes illocutionary force. However, this is incompatible with the assumption that one and the same lexical item cannot have both lexical meaning and be the locus of illocutionary force. (If there were a C head, this problem would disappear, but there isn’t.)
Problem 3:
The interpretation that needs to be assigned to the adverbial (viz., $\lambda w.[\text{RAUS}(w)]$) differs from the one that it normally needs to have, even though it intuitively seems to carry its old meaning in relation to the ‘mit’-phrase.

Problem 4:
Adverbs do not typically have head status. (At least, clausal projections are not normally projections of adverbial heads.)

Conclusion:
A construction-based analysis of ‘mit’-directives is called for.
Jacobs’ Construction Analysis of ‘mit’-Directives

(34) **raus mit dem Köter**
   a. Phon: /X mit Y/
   b. Cat: [U X_{Adv,dir} [PP mit_{P} Y_{NP,dat}]]
   c. Sem: DIR_{ill}(sp, adr, [GO-END(x,w) & Y'(x) & x'(w)])

(35) **in den Müll mit den Klamotten**
   a. Phon: /X mit Y/
   b. Cat: [U X_{PP,dir} [PP mit_{P} Y_{NP,dat}]]
   c. Sem: DIR_{ill}(sp, adr, [GO-END(x,w) & Y'(x) & x'(w)])

**Note:**
This analysis evades the problems in 1–4: The (otherwise peculiar) properties are properties of the **construction**, not properties of **lexical items**.
Towards a Rule-Based Approach

Claim:
An ellipsis approach is readily available after all once a slightly more abstract approach to syntax is adopted: One must give up the naive idea that a simple addition of lexical items to ‘mit’-directives will produce a well-formed string.

Proposal:
The verb-based paraphrases that one has to look for with ‘mit’-directives like those in (a) are not those in (b), but those in (c).

(36) a. Nieder mit den Studiengebühren!
   b. *Mach(t) (...) nieder mit den Studiengebühren!
   c. Macht(t) (...) die Studiengebühren nieder!

(37) a. In den Müll mit diesen Klamotten!
   b. *Schmeiß(t) (...) in den Müll mit diesen Klamotten!
   c. Schmeiß(t) (...) die Klamotten in den Müll!

Hypothesis:
‘mit’-directives are the product of a grammatical-function changing operation that results from the addition of an antipassive-like head to v.
Antipassive

(38) **Antipassive alternation in Chukchee** (Paleosibirian; Comrie (1979)):

a. Yemron-na qərər-ərkən-in ekək
   Yemron-ERG₁ search-PRS.3SG₁.3SG₂ son-ABS₂
   ‘Yemron is searching for his son.’

b. Yemron ine-lqərər-ərkən (akka-gtə)
   Yemron-ABS₁ APASS-search-PRS.3SG₁ (son-DAT)
   ‘Yemron is searching (for his son).’

Generalizations (Baker (1988), Bittner & Hale (1996))

- An APASS (antipassive) morpheme can be attached to the verb.
- APASS makes assignment of structural case to the direct object (the absolutive in ergative systems) impossible; the verb becomes intransitive.
- The direct object is demoted; it is either left out or realized as an oblique phrase.
- The subject is typically unaffected, but it changes its case in ergative systems: It bears absolutive case (due to the lack of a direct object receiving structural case).
Argument Demotion in ‘mit’-directives

Prediction:
If ‘mit’-directives are antipassive-like constructions, it should be possible to leave out the demoted direct object (i.e., the ‘mit’-phrase). This prediction is confirmed.

(39) Lack of ‘mit’-phrase realization in adverb contexts:
   a. (i) Weg mit dem Krempel!
      (ii) Weg!
      (iii) *Mit dem Krempel!
   b. (i) Nieder mit den Studiengebühren!
      (ii) Nieder!
      (iii) *Mit den Studiengebühren!

(40) Lack of ‘mit’-phrase realization in PP contexts:
   a. (i) In den Müll mit diesen Klamotten!
      (ii) In den Müll!
      (iii) *Mit diesen Klamotten!
   b. (i) Zur Hölle mit dieser Regierung!
      (ii) Zur Hölle!
      (iii) *Mit dieser Regierung!

Note:
The construction approach has nothing to say about these asymmetries; and it needs to stipulate additional constructions for the (ii)-examples.
Analysis 1

Outline:

- An abstract antipassive-like morpheme APASS optionally shows up in the numeration; if present, it attaches to v.
  (Alternative: There is an APASS-phrase with V+v-to-APASS movement in the syntax.)
- APASS on v removes v’s ability to assign structural case; it absorbs [*acc*].
- The object must therefore be realized as an oblique (or not at all); the preposition that fits the directional-resultative meaning of the verbs involved is mit.
- In accusative-type languages, Burzio’s Generalization then implies that a normal external argument cannot be selected anymore by v either (a passive-like effect). Suggestion: As a consequence of APASS on v, impoverishment of the subcategorization feature on v applies – [●D●] on v becomes a defective [●X●] (a general EPP property) that is insufficient to trigger external Merge; the external argument cannot be realized syntactically anymore.
- Morphological realization of all categories (functional and lexical) takes place post-syntactically (Marantz (1995, 1998)). Vocabulary items like geben, bringen, machen, schmeißen, schicken, etc. cannot be inserted in V+v+APASS because the APASS morpheme has created a feature context that is incompatible (given the Subset Principle). As a result, only a zero verb can be inserted (or none at all).
Little v’s EPP property [●X●] triggers movement. The lower item moves (despite the MLC); if the higher item (the demoted object) moves, the defective subcategorization feature of v is still sufficient to create a violation of the $\theta$-criterion. (Alternative: Object demotion is in fact phrase-structural, as in Larson’s (1988) approach to double object constructions. On both approaches, it is ensured that the object cannot move to Spec$v$; therefore it cannot acquire nominative case by $T$, as in real passives.) Movement of the adverb/PP is very much like stylistic fronting in Icelandic, under Holmberg’s (2000) analysis.

**APASS** induces obligatory verb-second (V-to-C) movement in German.

Topicalization cannot apply because this operation requires a overt verb form in C in German (unless we are dealing with gapping contexts.) Consequently, the resulting structures must be verb-first, which can be interpreted as an imperative or as a yes-/no question.
The Structure of ‘mit’-directives

(41) A new structure for ‘mit’-directives:
Problems for Structure-Building Analyses Solved

Problem 1:
Normally, adverbs do not subcategorize other items (incl. PPs).

Solution:
Under the present analysis, adverbs do not subcategorize anything.

Problem 2:
One and the same lexical item cannot have both lexical meaning and be the locus of illocutionary force.

Solution:
Lexical meaning is carried by the adverb/PP; illocutionary force is on C.

Problem 3:
The interpretation that needs to be assigned to the adverbial (viz., $\lambda w.[\text{RAUS}(w)]$) differs from the one that it normally needs to have, even though it intuitively seems to carry its old meaning in relation to the 'mit'-phrase.

Solution:
The interpretation of the adverb/PP is the same as it is in other clauses.

Problem 4:
Clausal projections are not normally projections of adverbial heads.

Solution:
The adverb/PP does not project a clause.
Consequences: External Arguments

Prediction:
In ‘mit’-directive constructions, external arguments cannot be realized at all, even though external arguments can optionally be realized in imperatives.
This prediction is confirmed.

(42)  a. Macht (ihr) die Studiengebühren nieder!
     b. *Nieder ihr mit den Studiengebühren!
     c. *Nieder mit den Studiengebühren von euch!

(43)  a. Schmeiß (du) die Klamotten in den Müll!
     b. *In den Müll du die Klamotten!
     c. *In den Müll die Klamotten von dir!
Consequences: Sentence Mood

Observation:
Nothing in the present analysis specifically requires an imperative interpretation. The only thing that is required is that the resulting sentence is verb-first.

Prediction:
Unless further restrictions are imposed, ‘mit’-directives should be compatible with both an imperative and a (yes/no) interrogative interpretation of the sentence. This prediction is borne out.

\begin{equation}
\begin{align*}
(44) \text{a. } & \text{In den M"ull mit den Klamotten? (Oder was soll ich damit machen?)} \\
& \text{b. Auf zum Fest?} \\
& \text{c. Also zur H"olle mit ihm?} \\
& \text{d. Also was jetzt: Nieder mit den Studiengeb"uhren oder nicht?}
\end{align*}
\end{equation}

In the present rule-based approach, this follows from the fact that ‘mit’-directives are verb-first clauses. In the construction-based approach, one has to basically duplicate the existing constructions, and minimally change imperative semantics to interrogative semantics in one of the two sets.
Consequences: Syntactic Activity of ‘mit’-Directives

Prediction:
- The rule-based approach predicts that, where all restrictions that follow from the analysis are satisfied, ‘mit’-directives should behave just like all other sentential objects. In particular, they should be accessible for further external and internal Merge.
- The construction-based approach predicts that the ‘mit’-directive construction is inaccessible for further syntactic rules (unless extensions are stipulated that bring the approach closer to a rule-based approach).

Observation:
The internal structure of ‘mit’-directives is accessible by further syntactic rules. (Also cf. Müller, St. (2006) on resultative constructions.)
Modification

Observation (Jacobs (2006)): Modification of ‘mit’-directives works exactly as it does in regular transitive sentences; the restrictions are identical. This is a problem for the construction-based approach, but it follows directly from the rule-based approach.

(45) **Modification in transitive clauses:**
   a. Schmeiß den Krempel weg!
   b. Schmeiß den Krempel schnell weg!
   c.?*Schmeiß den Krempel sorgfältig weg!

(46) **Modification in ‘mit’-directives:**
   a. Weg mit dem Krempel!
   b. Schnell weg mit dem Krempel!
   c.?*Sorgfältig weg mit dem Krempel!
Movement

Observation:
In varieties that permit P stranding, ‘mit’-directives can (marginally) involve P stranding, too. This is expected under the rule-based approach, and unexpected under the construction-based approach (which would seem to need to postulate yet another construction in each case).

(47) **P-stranding in transitive clauses:**
   a. Wirf die Klötze da rein!
   b. Wirf da die Klötze rein!

(48) **P-stranding in ‘mit’-directives:**
   a. Da rein mit den Klötzen!
   b. Da mit den Klötzen rein!

(49) a. Bring den Krempel dahin!
   b. Bring da den Krempel hin!
   c. Dahin mit dem Krempel!
   d. Da mit dem Krempel hin!
Conclusion

A rule-based approach to ‘mit’-directives is problematic only as long as one assumes that an ellipsis approach must be naive (such adding lexical material results in a regular sentences). In contrast, a rule-based approach is straightforward if ‘mit’-directives are analyzed as full CPs that are headed by a verb with an attached anti-passive morpheme whose PF-realization is zero, and that triggers **object demotion**. This evades all pieces of counter-evidence (Jacobs’ four problems) against a rule-based approach, and it covers further effects that the construction-based approach has little to say about.

Main point:

1. There is evidence that ‘mit’-directives in German are composed of smaller parts: **word status, accessibility for syntactic rules that access the internal structure**.

2. However, the properties of ‘mit’-directives can be determined on the basis of the properties of the individual lexical items: A **rule-based approach is possible**, and well motivated because (a) it makes a compositional approach to semantic interpretation possible, and (b) it predicts syntactic effects that must remain a mystery under the construction-based approach.

3. Conclusion: ‘mit’-directives in German are **not syntactic constructions**.
The Phenomenon

**Observation** (Waßner (2001)):
There are restrictions on the shape of phase (CP) edges in adjacent CPs with idiomatic connectives in poetic use.

(50) **Variations on a line in Goethe’s “Der Fischer”**:  
  a. $[\text{CP}_2 \text{ Halb}_i \text{ zog sie ihn t}_i ] \leftrightarrow [\text{CP}_1 \text{ halb}_i \text{ sank er t}_i \text{ hin }]$  
     half pulled she him half sank he down  
  b. $[\text{CP}_2 \text{ Sie zog ihn halb}_i ] \leftrightarrow [\text{CP}_1 \text{ er sank halb}_i \text{ hin }]$  
     she pulled him half he sank half down  
  c. $[\text{CP}_2 \text{ Sie zog ihn halb}_i ] \leftrightarrow [\text{CP}_1 \text{ halb}_i \text{ sank er t}_i \text{ hin }]$  
     she pulled him half half sank he down  
  d. $*[\text{CP}_2 \text{ Halb}_i \text{ zog sie ihn t}_i ] \leftrightarrow [\text{CP}_1 \text{ er sank halb}_i \text{ hin }]$  
     half pulled she him he sank half down

**Note:**  
The phenomenon is more general. It is not a simple parallelism effect (given the (c)-examples).
More Data

(51) **More parallel CPs:**

a. \([CP_2 \text{ Bald; bin ich } t_i \text{ hier }] \leftrightarrow [CP_1 \text{ bald; bin ich } t_i \text{ dort }]
soon \ am \ I \ here \ soon \ am \ I \ there

b. \([CP_2 \text{ Ich bin bald hier }] \leftrightarrow [CP_1 \text{ ich bin bald dort }]
I \ am \ soon \ here \ I \ am \ soon \ there

c. \([CP_2 \text{ Ich bin bald hier }] \leftrightarrow [CP_1 \text{ bald; bin ich } t_i \text{ dort }]
I \ am \ soon \ here \ soon \ am \ I \ there

d. \* [CP_2 \text{ Bald; bin ich } t_i \text{ hier }] \leftrightarrow [CP_1 \text{ ich bin bald; dort }]
soon \ am \ I \ here \ I \ am \ soon \ there

**Generalization:**

If CP_1 and CP_2 are parallel, the edge of CP_1 must be affected by non-subject topicalization if the edge of CP_2 is affected by non-subject topicalization (but not vice versa).
Basic Assumptions

The basic rule:
Williams (1999, 2003) argues for a rule called Shape Conservation. Versions of this rule are adopted within an optimality-theoretic approach in Müller (1997b, 2001) (for co-argument NPs) and in Müller (2000) (for vPs).

Claim:
Shape Conservation with CP (phase) edges accounts for the restriction on non-subject topicalization in parallel CPs in German.

(52) SCP (Shape Conservation for Phase Edges):
Phase edges have an identical shape throughout the derivation.

(53) Edge (Chomsky (2000), Chomsky (2001)):
The edge of an XP contains SpecX and X.

Computation of SCP violations:
Given the edge of CP$_\alpha$, SCP violations for CP$_\beta$ are computed as follows:
(i) Compare the n-th edge constituent of CP$_\alpha$ with the n-th edge constituent of CP$_\beta$ and assign a * if the two items do not have an identical shape (relevant: categorial and movement-related features).
(ii) For each edge constituent of one CP that does not correspond to an edge constituent of the other CP, assign a *.
Features and Movement

Topicalization and V/2:
Topicalization in German is triggered by features on C; so is V/2 movement in German (see Grewendorf (2002) and references given there).

(54) Features of declarative C in German:
   a.  \[ C_d = \left[ C \text{ dass} \right] \]
       \( C_d \) does not trigger movement.
   b.  \[ C_e = \left[ C \emptyset [\bullet \text{EPP} \bullet], [\bullet \text{fin} \bullet] \right] \]
       \( C_e \) triggers V/2 movement of the finite verb and movement of some XP to SpecC; given the MLC, this will then normally be the subject.
   c.  \[ C_t = \left[ C \emptyset [\bullet \text{EPP} \bullet], [\bullet \text{top} \bullet], [\bullet \text{fin} \bullet] \right] \]
       \( C_t \) triggers V/2 movement of the finite verb and movement of some [top]-marked XP.

(55) MLC (Minimal Link Condition):
Movement to an XP position applies to the closest XP.

Assumption:
With two parallel CPs as in (50) and (51), CP\(_2\) is optimized before CP\(_1\), and generation and optimization of CP\(_1\) takes place on the basis of CP\(_2\), whose properties are still accessible. (Parallelism implies pseudo-subordination.)

Note:
In an account of the data in, e.g., (50), two options must be considered for each C. First, C can be \( C_e \) or \( C_t \) in CP\(_2\). Second, C can be \( C_e \) or \( C_t \) in CP\(_1\).
CP₂ is Subject-Initial

First option: C of CP₂ is Cₑ.

T₁: Parallelism: Subject-initial CP₂

<table>
<thead>
<tr>
<th>Input: [Cₑ Ø[●EPP●],[●fin●]], [TP sie ihn halb zog[fin]]</th>
<th>FC</th>
<th>SCP</th>
<th>MLC</th>
<th>LR</th>
</tr>
</thead>
<tbody>
<tr>
<td>O₁: [CP₂ [Cₑ Ø ] [TP sie ihn halb zog ]]</td>
<td><em>!</em></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>O₂: [CP₂ siei [Cₑ Ø ] [TP t₁ ihn halb zogj ]]</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>→ O₃: [CP₂ siei [Cₑ zogj-Ø ] [TP t₁ ihn halb t_j ]]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>O₄: [CP₂ halbk [Cₑ Ø ] [TP sie ihn t_k zog ]]</td>
<td>*!</td>
<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>O₅: [CP₂ halbk [Cₑ zogj-Ø ] [TP sie ihn t_k t_j ]]</td>
<td>*!</td>
<td></td>
<td>*</td>
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</tr>
</tbody>
</table>

Note:
Based on the optimal output O₃ in T₁, there are two possible continuations: CP₁ may have Cₑ, as in T₂, or Cᵗ, as in T₃.

T₂: Parallelism: Subject-initial CP₂ ← subject-initial CP₁

<table>
<thead>
<tr>
<th>Input: [CP₂ siei; [Cₑ zogj-Ø ] [TP t_i ihn halb t_j ]] ← [TP er halb hin sank[fin]], [Cₑ Ø[●EPP●],[●fin●]]</th>
<th>FC</th>
<th>SCP</th>
<th>MLC</th>
<th>LR</th>
</tr>
</thead>
<tbody>
<tr>
<td>O₃₁: CP₂ ← [CP₁ [Cₑ Ø ] [TP er halb hin sank ]]</td>
<td><em>!</em></td>
<td>**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>O₃₂: CP₂ ← [CP₁ eri [Cₑ Ø ] [TP t_i halb hin sank ]]</td>
<td>*!</td>
<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>→ O₃₃: CP₂ ← [CP₁ eri [Cₑ sankj-Ø ] [TP t_i halb hin t_j ]]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>O₃₄: CP₂ ← [CP₁ halbk [Cₑ Ø ] [TP er t_k hin sank ]]</td>
<td>*!</td>
<td>*</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>O₃₅: CP₂ ← [CP₁ halbk [Cₑ sankj-Ø ] [TP er t_k hin t_j ]]</td>
<td>*!</td>
<td>*</td>
<td>*</td>
<td></td>
</tr>
</tbody>
</table>
**CP₂ is Subject-Initial cont’d**

T₃: Parallelism: Subject-initial CP₂ ↔ connective-initial CP₁

<table>
<thead>
<tr>
<th>Input: [CP₂ sie [Ce zogj-Ø ] [TP ti ihn halb tj ] ] → [TP er halb [top] hin sank [fin] ], [Ct Ø[●EPP●],[●top●],[●fin●] ]</th>
<th>FC</th>
<th>SCP</th>
<th>MLC</th>
<th>LR</th>
</tr>
</thead>
<tbody>
<tr>
<td>O₃₁: CP₂ ← [CP₁ [Ct ø ] [TP er halb hin sank ] ]</td>
<td><em>!</em>*</td>
<td>**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>O₃₂: CP₂ ← [CP₁ eri [Ct ø ] [TP ti halb hin sank ] ]</td>
<td><em>!</em></td>
<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>O₃₃: CP₂ ← [CP₁ eri [Ct sankj-Ø ] [TP ti halb hin tj ] ]</td>
<td>*!</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>O₃₄: CP₂ ← [CP₁ halbk [Ct ø ] [TP er tk hin sank ] ]</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>O₃₅: CP₂ ← [CP₁ halbk [Ct sankj-Ø ] [TP er tk hin tj ] ]</td>
<td>*</td>
<td>*</td>
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</tr>
</tbody>
</table>

**Conclusion:**

(56-ab) are both optimal outputs.

(56) **Subject-initial CP₂**:

a. [CP₂ sie zog ihn halbi ] ← [CP₁ er sank halbi hin ]

she pulled him half

he sank half down

b. [CP₂ sie zog ihn halbi ] ← [CP₁ halbi sank er ti hin ]

she pulled him half

half sank he down
**CP₂ is Connective-Initial**

**Second option:**
C of CP₂ is Cₜ.

**T₄: Parallelism: Connective-initial CP₂**

<table>
<thead>
<tr>
<th>Input: [Cₜ Ø [EPP], [top], [fin]], [TP sie ihn halb [top] zog [fin]]</th>
<th>FC</th>
<th>SCP</th>
<th>MLC</th>
<th>LR</th>
</tr>
</thead>
<tbody>
<tr>
<td>O₁: [CP₂ [Cₜ Ø] [TP sie ihn halb zog]]</td>
<td><em>!</em>*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>O₂: [CP₂ sie [Cₜ Ø] [TP t i ihn halb zog]]</td>
<td><em>!</em></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>O₃: [CP₂ sie [Cₜ zog j-Ø] [TP t i ihn halb t j]]</td>
<td>*!</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>O₄: [CP₂ halb [Cₜ Ø] [TP sie ihn t k zog]]</td>
<td>*!</td>
<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>→ O₅: [CP₂ halb [Cₜ zog j-Ø] [TP sie ihn t k t j]]</td>
<td>*</td>
<td>*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**CP₂ is Connective-Initial 2**

**Note:**
Based on the optimal output $O_5$ in $T_4$, there are two possible continuations: $CP_1$ may have $C_t$, as in $T_5$, or $C_e$, as in $T_6$.

**$T_5$: Parallelism: Connective-initial $CP₂$ $\leftrightarrow$ connective-initial $CP₁$**

<table>
<thead>
<tr>
<th>Input: $[CP₂ \text{ halb}<em>k [C_t \text{ zog}<em>j-\emptyset] [TP \text{ sie ihm } t_k t_j]] \leftrightarrow [TP \text{ er halb}</em>{\text{top}} \text{ hin sank}</em>{\text{fin}}], [C_t \emptyset[\bullet \text{EPP\bullet}], [\bullet \text{top\bullet}],[\bullet \text{fin\bullet}]]$</th>
<th>FC</th>
<th>SCP</th>
<th>MLC</th>
<th>LR</th>
</tr>
</thead>
<tbody>
<tr>
<td>$O_{51}$: $CP₂ \leftrightarrow [CP₁ [C_t \emptyset] [TP \text{ er halb hin sank}]]$</td>
<td><em>!</em>*</td>
<td>**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$O_{52}$: $CP₂ \leftrightarrow [CP₁ \text{ er}_i [C_t \emptyset] [TP \text{ t}_i \text{ halb hin sank}]]$</td>
<td><strong>!</strong></td>
<td>**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$O_{53}$: $CP₂ \leftrightarrow [CP₁ \text{ er}_i [C_t \text{ sank}_j-\emptyset] [TP \text{ t}_i \text{ halb hin t}_j]]$</td>
<td>*!</td>
<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$O_{54}$: $CP₂ \leftrightarrow [CP₁ \text{ halb}_k [C_t \emptyset] [TP \text{ er } t_k \text{ hin sank}]]$</td>
<td>*!</td>
<td>*</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>$O_{55}$: $CP₂ \leftrightarrow [CP₁ \text{ halb}_k [C_t \text{ sank}_j-\emptyset] [TP \text{ er } t_k \text{ hin t}_j]]$</td>
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</tbody>
</table>
**CP₂ is Connective-Initial 3**

T₆: Parallelism: *Connective-initial CP₂ ↔ subject-initial CP₁

<table>
<thead>
<tr>
<th>Input: [CP₂ halbₖ [Cₜ zogₗ-Ø ] [TP sie ihn tₖ tₗ ] ] ↔ [TP er halb hin sank[fin] ], [Cₑ Ø[•EPP•][•fin•]]</th>
<th>FC</th>
<th>SCP</th>
<th>MLC</th>
<th>LR</th>
</tr>
</thead>
<tbody>
<tr>
<td>O₅₁: CP₂ ↔ [CP₁ [Cₑ Ø ] [TP er halb hin sank ] ]</td>
<td><em>!</em></td>
<td>**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>O₅₂: CP₂ ↔ [CP₁ erᵢ [Cₑ Ø ] [TP tᵢ halb hin sank ] ]</td>
<td>*!</td>
<td>**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>O₅₃: CP₂ ↔ [CP₁ erᵢ [Cₑ sankᵢ-Ø ] [TP tᵢ halb hin tᵢ ] ]</td>
<td>*!</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>O₅₄: CP₂ ↔ [CP₁ halbₖ [Cₑ Ø ] [TP er tₖ hin sank ] ]</td>
<td>*!</td>
<td>*</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>→ O₅₅: CP₂ ↔ [CP₁ halbₖ [Cₑ sankᵢ-Ø ] [TP er tₖ hin tᵢ ] ]</td>
<td></td>
<td>*</td>
<td>*</td>
<td></td>
</tr>
</tbody>
</table>

Gereon Müller (Universität Leipzig) There Are No Constructions May 20, 2009 48 / 62
**CP₂ is Connective-Initial 4**

**Conclusion:**
(57-a) is an optimal output, (57-b) is not: SCP triggers input neutralization by forcing movement which is not feature-driven.

(57) **Connective-initial CP₂:**
   a. \([\text{CP}_2 \text{ Halb}_i \text{ zog } \text{ sie } \text{ ihn } t;] \leftrightarrow [\text{CP}_1 \text{ halb}_i \text{ sank } \text{ er } t; \text{ hin } ]\)
      half pulled she him half sank he down
   b. \(*[\text{CP}_2 \text{ Halb}_i \text{ zog } \text{ sie } \text{ ihn } t;] \leftrightarrow [\text{CP}_1 \text{ er } \text{ sank } \text{ halb}_i \text{ hin } ]\)
      half pulled she him he sank half down

**In general:**
SCP can be violated so as to fulfill FR, but not in order to respect LR.

**Note:**
This analysis does not rely on construction-specific assumptions. In fact, the very same system can be shown to underlie the phenomenon of *successive-cyclic movement* (Müller (2003)).
Conclusion

Main point:

1. There is evidence that parallel CPs in German are composed of smaller parts: complete internal transparency.

2. However, the properties of the parallel CPs (the fact that they are formulaic, and, in particular, the absence of the fourth pattern) can be determined on the basis of the properties of the individual lexical items: A rule-based approach is possible, and well motivated because it derives the absence of the fourth pattern (in contrast to construction-based approaches).

3. Conclusion: Parallel CPs in German are not syntactic constructions.
Claim (Jacobs (2008, 33)):
"Mit jedem solchen Beispiel wird die Annahme, konkrete komplexe Konstruktionen seien kein wesentlicher Bestandteil der Sprachtheorie, etwas weniger einleuchtend. Gänzlich unplaustibel wird sie jedoch, wenn man den Blick von der Syntax in die Morphologie lenkt. Dass es dort viele Phänomene gibt, die nur konstruktionsistisch erfassbar sind [...], muss ich hier allerdings nicht zeigen, denn es ist schon oft gezeigt worden."
German Verb Inflection: Weak and Strong Paradigms

(58) a. **Weak conjugation**  
   *glauben* (‘believe’)  

<table>
<thead>
<tr>
<th></th>
<th>Präsens</th>
<th>Präteritum</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.SG</td>
<td>glaub-e</td>
<td>glaub-te</td>
</tr>
<tr>
<td>2.SG</td>
<td>glaub-s-t</td>
<td>glaub-te-s-t</td>
</tr>
<tr>
<td>3.SG</td>
<td>glaub-t</td>
<td>glaub-te</td>
</tr>
<tr>
<td>1.PL</td>
<td>glaub-en</td>
<td>glaub-te-n</td>
</tr>
<tr>
<td>2.PL</td>
<td>glaub-t</td>
<td>glaub-te-t</td>
</tr>
<tr>
<td>3.PL</td>
<td>glaub-en</td>
<td>glaub-te-n</td>
</tr>
</tbody>
</table>

b. **Strong conjugation**  
   *rufen* (‘call’)  

<table>
<thead>
<tr>
<th></th>
<th>Präsens</th>
<th>Präteritum</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.SG</td>
<td>ruf-e</td>
<td>rief</td>
</tr>
<tr>
<td>2.SG</td>
<td>ruf-s-t</td>
<td>rief-s-t</td>
</tr>
<tr>
<td>3.SG</td>
<td>ruf-t</td>
<td>rief</td>
</tr>
<tr>
<td>1.PL</td>
<td>ruf-en</td>
<td>rief-en</td>
</tr>
<tr>
<td>2.PL</td>
<td>ruf-t</td>
<td>rief-t</td>
</tr>
<tr>
<td>3.PL</td>
<td>ruf-en</td>
<td>rief-en</td>
</tr>
</tbody>
</table>

Observation: There are many instances of **syncretism** in these paradigms.

1. All cases of syncretism (incl. partial (or block) syncretism with *s-t*) can be derived with the endings of the weak and strong conjugations, given feature decomposition (which yields natural classes) and underspecification (Bierwisch (1961), Wiese (1994), Wunderlich (1996), Eisenberg (2000), Frampton (2002), Müller (2006)).

2. Stem alternation with strong verbs also emerges as fully systematic (Ross (1967), Ségéral & Scheer (1998), Wiese (2006)).

(Also see Halle & Marantz (1993) vs. Albright & Hayes (2002) vs. Pinker (1991) on strong verbs in English.)
(59) **Suppletive conjugation**  
*sein* (‘be’)  

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Observation:  
There is evidence that the individual word forms are composed of smaller units: **partial syncretism**.
Partial Syncretism in the Suppletive Paradigm: Subanalysis

(60) Pike’s (1965) subanalysis of verb inflection with *sein* (‘be’) in German:

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Claim (Baerman et al. (2005)):
“Whatever the merits of such an analysis, it is not one which is compatible with most morphological models”.

Side remark: Pike’s (1965) article contains two further analyses of inflectional phenomena in German: a subanalysis of definite article inflection (*der, die, das*, etc), and a subanalysis of personal pronouns, including suppletion phenomena (*ich, mich, mir, meiner*, etc.).

Observation: Pike-style analyses have independently been developed for these phenomena in current morphological theories:

- Wunderlich (1997a), Wiese (1999) on the inflection of definite articles
Subananalysis in Current Morphological Theories

Question:
Do we have to assume that the verb forms in (60) are morphological constructions?

Answer:
Probably not:

Subananalysis is pursued in many current morphological theories:

- **Distributed Morphology**: noun inflection in Latvian and Russian (Halle (1992, 1994)), Afro-Asiatic prefix conjugation (Noyer (1992)), argument encoding markers on verbs in Georgian and Potawatomi (Halle & Marantz (1993)), Spanish object clitics (Halle & Marantz (1994)), verb inflection in Kiowa (Harbour (2003)), noun inflection in Icelandic (Müller (2005)), verb inflection in Menominee (Trommer (2006b), Nevins (2007)), various other phenomena (papers collected in Müller & Trommer (2006))

- **Paradigm Function Morphology** (and other stem-and-paradigm approaches): Bulgarian verb inflection (Stump (2001)), argument encoding markers on verbs in Georgian and Potawatomi (Anderson (1992))

- **Minimalist Morphology** (Wunderlich (1996, 1997b))

- **Network Morphology**: noun inflection in Russian (Corbett & Fraser (1993)), Dhaasanac verb inflection, Dalabon verb inflection (Baerman et al. (2005)), deponent verbs in Latin (Hippisley (2007))
Distributed Morphology: Background Assumptions 1

(61) **Late vocabulary insertion:**
   a. Functional morphemes like v, Agr, and T contain fully specified bundles of morpho-syntactic features in syntax; however, they do not yet contain phonological material.
   b. Inflection markers are vocabulary items that pair phonological and (often underspecified) morpho-syntactic features; they are inserted post-syntactically in accordance with the Subset Principle.

(62) **Subset Principle** (Halle (1997)):
A vocabulary item $V$ is inserted into a functional morpheme $M$ iff (i) and (ii):
   (i) The morpho-syntactic features of $V$ are a subset of the morpho-syntactic features of $M$.
   (ii) $V$ is the most specific vocabulary item that satisfies (i).

(63) **Specificity of vocabulary items** (Lumsden (1992), Noyer (1992), Wiese (1999)):
A vocabulary item $V_i$ is more specific than a vocabulary item $V_j$ iff there is a class of features $F$ such that (i) and (ii) hold.
   (i) $V_i$ bears more features belonging to $F$ than $V_j$ does.
   (ii) There is no higher-ranked class of features $F'$ such that $V_i$ and $V_j$ have a different number of features in $F'$.
Distributed Morphology: Background Assumptions 2

(64) **Feature hierarchy** (for determining specificity):
Tense > Person > Number

Assuming vocabulary insertion to be post-syntactic opens up the possibility of operations applying after syntax but before morphological insertion that change the morphosyntactic feature specification. This derives systematic mismatches between morphology and syntax.

Morpho-syntactic features can be deleted post-syntactically before vocabulary insertion takes place; this effects a “retreat to the general case”.

(66) **Fission** (Noyer (1992), Frampton (2002), Müller (2005), not Halle & Marantz (1993)):
If insertion of a vocabulary item $V$ with the morpho-syntactic features $\beta$ takes place into a fissioned morpheme $M$ with the morpho-syntactic features $\alpha$, then $\alpha$ is split up into $\beta$ and $\alpha-\beta$, such that (a) and (b) hold:

a. $\alpha-\beta$ is available for further vocabulary insertion.

b. $\beta$ is not available for further vocabulary insertion.

- All functional heads in German are subject to fission.
- This increases the possibilities for subanalysis (in addition to the presence of functional heads).
Feature Decomposition and Natural Classes

(67) **Person features:**

- b. Cross-classification yields eight possible persons in the world’s languages; some combinations are semantically excluded.
- c. All combinations of persons (including first person inclusive) can form a natural class, reflected in syncretism patterns (Cysouw (2003), Baerman et al. (2005)).
- d. Vocabulary items can bear underspecified person information and thus encode natural classes of persons; this derives instances of syncretism.
Structure for Analysis

(68) **Structure before vocabulary insertion:**

```
  Agr
  /\  /
 Vsein Th
```

Assumptions:

1. At least in the case of *sein* (‘be’), V is filled only post-syntactically, by vocabulary insertion.

2. Th is a theme vowel position associated with the lexical head (Halle (1992, 1994), Halle & Marantz (1994), Oltra Massuet (1999), Oltra Massuet & Arregi (2005)). Th may be base-generated or enter the derivation by dissociation, and it may or may not project.

3. Agr contains Φ-features (relevant in the present contexts are person and number, which can be morphologically realized)

4. I abstract away from a possible T since I focus on present tense inflection here.
Analysis: Vocabulary Items

(69) Vocabulary insertion rules in Distributed Morphology

a.  (i) /b/ ↔ Vsein /_
    (ii) /z/ ↔ Vsein /_

b.  (i) /a/ ↔ [+β] /_
    (ii) /l/ ↔ [+α] /_

b.  (i) /Ø/ ↔ [–1,+2] /_
    (ii) /s/ ↔ [–1] /_
    (iii) /n/ ↔ [–2] /_
    (iv) /Ø/ ↔ [–pl] /_
    (v) /t/ ↔ [±pl] /_

Remarks:

- The /_ notation is supposed to be neutral with respect to linear order.
- The necessity for contextual features arises because the system displays extended (multiple) exponentence (Matthews (1972)), a fact already noted by Pike (1965)). Contextual features are not discharged by insertion in the case of fissioned heads.
- The availability of a natural class comprising first and second person (encoded by the feature [–3]) makes it possible to dispense with a special rule introducing zero marking for third person singular contexts.
Analysis: Vocabulary Insertion

(70) **Subanalysis of the suppletive paradigm:**

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(71) **Vocabulary insertion rules**
Analysis: Vocabulary Insertion

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(71) **Vocabulary insertion rules**

\[ V \ (i) \ /b/ \leftrightarrow V\text{sein} \ /\_\_ \ [-3,-pl] \]
Analysis: Vocabulary Insertion

(70) **Subanalysis of the suppletive paradigm:**

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(71) **Vocabulary insertion rules**

V (i) /b/ $\leftrightarrow V_{sein} /\_ [−3,−pl]

(ii) /z/ $\leftrightarrow V_{sein} /\_ [+pl]
Analysis: Vocabulary Insertion

(70) **Subanalysis of the suppletive paradigm:**

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(71) **Vocabulary insertion rules**

- **V** (i) \( /b/ \leftrightarrow Vsein /\_ [–3,–pl] \)
- (ii) \( /z/ \leftrightarrow Vsein /\_ [+pl] \)
- **Th** (i) \( /a/ \leftrightarrow [+\beta] /\_ Vsein, [–1,+2,+pl] \)

- \( Vsein \) is associated with a Th position bearing the abstract features \([+\alpha,+\beta]\) (Oltra Massuet (1999)).
Analysis: Vocabulary Insertion

(70) **Subanalysis of the suppletive paradigm:**

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(71) **Vocabulary insertion rules**

\[
V \quad (i) \quad /b/ \leftrightarrow Vsein \quad \underline{\_{--3,-pl}}
\]

\[
V \quad (ii) \quad /z/ \leftrightarrow Vsein \quad \underline{\_{+pl}}
\]

\[
Th \quad (i) \quad /a/ \leftrightarrow [+\beta] \quad \underline{\_{-1,+2,+pl}} Vsein,
\]

\[
Th \quad (ii) \quad /l/ \leftrightarrow [+\alpha] \quad \underline{\_{+\alpha}} Vsein
\]

- \(Vsein\) is associated with a Th position bearing the abstract features \([+\alpha, +\beta]\) (Oltra Massuet (1999)).
- \([+\beta]\) outranks \([+\alpha]\), and the Strict Cycle Condition predicts the order of exponents.
### Analysis: Vocabulary Insertion

(70) **Subanalysis of the suppletive paradigm:**

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(71) **Vocabulary insertion rules**

- **V**
  - (i) /b/ ↔ Vsein /\ [-3,-pl]\
  - (ii) /z/ ↔ Vsein /\ [+pl]\
- **Th**
  - (i) /a/ ↔ [+β] /\ Vsein, [-1,+2,+pl]\
  - (ii) /i/ ↔ [+α] /\ Vsein\
- **Agr**
  - (i) /Ø/ ↔ [-1,+2] /\ Vsein, [+pl]\

- Vsein is associated with a Th position bearing the abstract features [+α,+β] (Oltra Massuet (1999)).
- [+β] outranks [+α], and the Strict Cycle Condition predicts the order of exponents.
- Person features are more specific than number features, [±1] is more specific than [±2]; [-pl] and [+pl] are more specific than [±pl] (contextual features do not count for specificity).
Subanalysis of the suppletive paradigm:

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Vocabulary insertion rules:

V (i) /b/ ⇔ Vsein / __ [–3,–pl]
(ii) /z/ ⇔ Vsein / __ [+pl]

Th (i) /a/ ⇔ [+β] / __ Vsein, [–1,+2,+pl]
(ii) /i/ ⇔ [+α] / __ Vsein

Agr (i) /Ø/ ⇔ [–1,+2] / __ Vsein, [+pl]
(ii) /s/ ⇔ [–1] / __ Vsein, [–pl]

Vsein is associated with a Th position bearing the abstract features [+α,+β] (Oltra Massuet (1999)).

[+β] outranks [+α], and the Strict Cycle Condition predicts the order of exponents.

Person features are more specific than number features, [±1] is more specific than [±2]; [–pl] and [+pl] are more specific than [±pl] (contextual features do not count for specificity).
Analysis: Vocabulary Insertion

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(71) **Vocabulary insertion rules**

- **V** (i) `/b/ ↔ Vsein /__ [–3,–pl]`
  (ii) `/z/ ↔ Vsein /__ [+pl]`
- **Th** (i) `/a/ ↔ [+β] /__ Vsein, [–1,+2,+pl]`
  (ii) `/i/ ↔ [+α] /__ Vsein`
- **Agr** (i) `/Ø/ ↔ [–1,+2] /__ Vsein, [+pl]`
  (ii) `/s/ ↔ [–1] /__ Vsein, [–pl]`
  (iii) `/n/ ↔ [–2] /__ Vsein`

- *Vsein* is associated with a Th position bearing the abstract features [+α,+β] (Oltra Massuet (1999)).
- [+β] outranks [+α], and the Strict Cycle Condition predicts the order of exponents.
- Person features are more specific than number features, [±1] is more specific than [±2]; [–pl] and [+pl] are more specific than [±pl] (contextual features do not count for specificity).
Analysis: Vocabulary Insertion

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(71) **Vocabulary insertion rules**

- **V** (i) /b/ ↔ Vsein /__ [–3, –pl]
- **V** (ii) /z/ ↔ Vsein /__ [+pl]
- **Th** (i) /a/ ↔ [+β] /__ Vsein, [–1, +2, +pl]
- **Th** (ii) /i/ ↔ [+α] /__ Vsein
- **Agr** (i) /Ø/ ↔ [–1, +2] /__ Vsein, [+pl]
- **Agr** (ii) /s/ ↔ [–1] /__ Vsein, [–pl]
- **Agr** (iii) /n/ ↔ [–2] /__ Vsein
- **Agr** (iv) /Ø/ ↔ [–pl] /__ Vsein, [+1]

- **Vsein** is associated with a Th position bearing the abstract features [+α, +β] (Oltra Massuet (1999)).
- [+β] outranks [+α], and the Strict Cycle Condition predicts the order of exponents.
- Person features are more specific than number features, [±1] is more specific than [±2]; [–pl] and [+pl] are more specific than [±pl] (contextual features do not count for specificity).
Suppletive Verb Inflection

Analysis: Vocabulary Insertion

(70) Subanalysis of the suppletive paradigm:

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(71) Vocabulary insertion rules

- **V** (i) /b/ \(\leftrightarrow\) Vsein /\(-3,-pl\)
  (ii) /z/ \(\leftrightarrow\) Vsein /\(+pl\)

- **Th** (i) /a/ \(\leftrightarrow\) \([+\beta]\) /\(+Vsein, [-1,+2,+pl]\)
  (ii) /i/ \(\leftrightarrow\) \([+\alpha]\) /\(+Vsein\)

- **Agr** (i) /Ø/ \(\leftrightarrow\) \([-1,+2]\) /\(+Vsein\)
  (ii) /s/ \(\leftrightarrow\) \([-1]\) /\(+Vsein, [-pl]\)
  (iii) /n/ \(\leftrightarrow\) \([-2]\) /\(+Vsein\)
  (iv) /Ø/ \(\leftrightarrow\) \([-pl]\) /\(+Vsein, [+1]\)
  (v) /t/ \(\leftrightarrow\) \([\pm pl]\) /\(+Vsein\)

- Vsein is associated with a Th position bearing the abstract features \([+\alpha,+\beta]\) (Oltra Massuet (1999)).
- \([+\beta]\) outranks \([+\alpha]\), and the Strict Cycle Condition predicts the order of exponents.
- Person features are more specific than number features, \([\pm 1]\) is more specific than \([\pm 2]\); \([-pl]\) and \([+pl]\) are more specific than \([\pm pl]\) (contextual features do not count for specificity).
- Something extra must be said for infinitives: impoverishment.
Analysis: Vocabulary Insertion

(70) **Subanalysis of the suppletive paradigm:**

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</table>

(71) **Vocabulary insertion rules**

- **V**
  1. /b/ $\leftrightarrow$ Vse$\!$in /
  2. /z/ $\leftrightarrow$ Vse$\!$in /
- **Th**
  1. /a/ $\leftrightarrow$ [+β] /
  2. /i/ $\leftrightarrow$ [+α] /
- **Agr**
  1. /Ø/ $\leftrightarrow$ [-1,+2] /
  2. /s/ $\leftrightarrow$ [-1] /
  3. /n/ $\leftrightarrow$ [-2] /
  4. /Ø/ $\leftrightarrow$ [-pl] /
  5. /t/ $\leftrightarrow$ [±pl] /

- Vse$\!$in is associated with a Th position bearing the abstract features [+α,+β] (Oltra Massuet (1999)).
- [+β] outranks [+α], and the Strict Cycle Condition predicts the order of exponents.
- Person features are more specific than number features, [±1] is more specific than [±2]; [-pl] and [+pl] are more specific than [±pl] (contextual features do not count for specificity).
- Something extra must be said for infinitives: impoverishment.
- Finally, the analysis needs to be generalized in the Agr domain to verb inflection in general (weak and strong conjugations).
Conclusion

- There are a priori 30 exponents (ignoring the infinitive); the analysis needs 9 rules for vocabulary insertion. Almost all of the instances of partial syncretism are derived systematically, and only zero exponence requires more than one rule.

- There may be a “reverse Indo-European bias” among scholars working on inflectional morphology in Indo-European languages; i.e., a reluctance to apply segmentation techniques that are well established for lesser-studied languages to the well-studied Indo-European languages.

Main point:

1. There is evidence that word forms in the suppletive conjugation in German are composed of smaller parts: partial syncretism.

2. However, the properties of the word forms can be determined on the basis of the properties of the individual vocabulary items: A rule-based approach is possible, and well motivated because it derives the cases of syncretism.

3. Conclusion: Word forms in the suppletive conjugation in German are not morphological constructions.
References


References


URL: http://hpsg.fu-berlin.de/~stefan/Pub/phrasal.html


