

# Extraposition in German comparatives and the optionality of rightward movement

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# Introduction

common assumptions about rightward movement in standard generative grammar:

- optional
- post-syntactic

problematic – Merge (rightward movement of phrases), strong features in core syntax (optionality)

factors determining preferences regarding rightward movement:  
prosodic and stylistic factors

## Question

how optionality can be modelled in extraposed German comparatives

proposal:

- optionality only partial – experimental evidence
- extraposition regulated by postsyntactic factors
- postsyntactic factors not stylistic or prosodic in nature – related to the way case assignment operates in the morphological component

→ no genuine optionality of a genuine core syntactic operation

## Rightward movement

classical case: Heavy NP Shift in English

- (1)
- I met **Mary** on the street.
  - \*I met on the street **Mary**.
  - I met **my niece from London** on the street.
  - I met on the street **my niece from London**.

properties:

- syntactic indicator: lexical verb adjacent to the direct object in syntax
- postsyntactic operation: prosodic factors (“heaviness”) decisive

## German

German: underlying OV order (VP/vP/TP head-final) –  
clause-final verbs in the right sentence bracket

- (2) Gestern habe ich Ulrike **gesehen**.  
yesterday have.1SG I Ulrike seen  
'I saw Ulrike yesterday.'

extraposition (in a descriptive sense): constituents appearing to  
the right of the right sentence bracket – right periphery  
(Nachfeld, NF)

# Types

- PP arguments of verbs
- adverbs
- attributes (of NPs)

## Extrapolation of PP arguments

- (3) a. Lina hat [mit Thea] [über die Kinder] **gesprochen**.  
Lina has with Thea on the children spoken  
'Lina talked about the children with Thea.'
- b. Lina hat **gesprochen** [mit Thea] [über die Kinder].  
Lina has spoken with Thea on the children  
'Lina talked about the children with Thea.'

## Extrapolation of attributes

- (4) a. Lina hat [eine Studentin [mit grünen Haaren]]  
Lina has a.F female.student with green hairs  
**getroffen**.  
met.PTCP  
'Lina has met a student with green hair.'
- b. Lina hat [eine Studentin] **getroffen** [mit grünen  
Lina has a.F female.student met.PTCP with green  
Haaren].  
hairs  
'Lina has met a student with green hair.'



## Analyses

- post-syntactic extraposition in all cases – Truckenbrodt (1995), Féry (2013)
- syntactic base-generation in some cases and post-syntactic extraposition in others – Frey (2015)

differentiation (Frey 2015):

- base-generation to the right of the verb: adverbs (adjuncts) and PP arguments (inflectional properties, i.e. case, not dependent on the verb)
- post-syntactic extraposition: attributes and relative clauses (see also Inaba 2007)

question: how the extraposition of comparative subclauses can be conditioned

## Comparatives

comparative clause base-generated as a complement of the degree (Deg) head (-er) in the matrix clause (Lechner 2004, Bacskai-Atkari 2018; see Hohaus & Zimmermann 2021 for a semantic analysis)

- (5)
- a. I am **as** tall [**as** Peter is].
  - b. \*I am **as** tall [**than** Peter is].
  - c. \*I am taller [**as** Peter is].
  - d. I am taller [**than** Peter is].

# Ellipsis

the comparative subclause is regularly elliptical:

(6) I am taller [than Peter is].

## Ambiguity

attributive comparatives potentially ambiguous (Lerner & Pinkal 1995):

- DP-external reading
- DP-internal reading

ambiguous structures:

- (7) I saw a taller woman than my mother.  
External reading: 'I saw a taller woman than my mother saw.'  
Internal reading: 'I saw a taller woman than my mother is.'

## Underlying structures

different underlying structures (Bacskai-Atkari 2021):

- (8) a. I saw a taller woman than [<sub>FP</sub> my mother [<sub>TP</sub> ~~t~~ saw  
~~x-tall a woman~~]].
- b. I saw a taller woman than [<sub>FP</sub> my mother [<sub>PredP</sub> ~~t~~ BE  
~~x-tall~~]].

FP: functional projection hosting the remnant in elliptical constructions in its specifier (Merchant 2001)

## Case

remnant a subject in both cases underlyingly, but there are differences:

- underlying TP: remnant is assigned nominative case
- underlying PredP: remnant not assigned nominative case

complementiser not a case assigner

case differentiation in German:

- nominative masculine remnants: external reading
- accusative masculine remnants: internal reading
- feminine remnants: case-ambiguous

## Predicative structures

no default accusative remnant otherwise in German, unlike in English:

- (9) a. I am taller than **him**.
- b. \*Ich bin größer als **ihn**.  
I am taller than he.ACC  
'I am taller than him.'

→ accusative case due to the particular configuration in attributive comparatives

## Experimental results

experiment:

- 48 speakers via the University of Potsdam (2020)
- online (written) via L-Rex (Starschenko & Wierzba 2021)
- rating acceptability – scale from 5 (best) to 1 (worst)
- items distributed over 12 lists
- altogether 64 test sentences for each participant
- 12 items testing the perfective condition – internal vs. external, full DP versus pronoun, case
- items presented in an unambiguous context
- follow-up: 48 speakers via the University of Konstanz (2021)

basic case distinction confirmed by experimental results



## External reading

- (10) 'Context: I have decided with [my sister / my brother] to give self-painted pictures to our parents this year.'
- a. Ich male ein schöneres Bild als **sie**.  
I paint.1SG a.N nicer.N picture as she.NOM/ACC  
'I am painting a nicer picture than her.'
- b. Ich male ein schöneres Bild als **er**.  
I paint.1SG a.N nicer.N picture as he.NOM  
'I am painting a nicer picture than him.'
- c. Ich male ein schöneres Bild als **ihn**.  
I paint.1SG a.N nicer.N picture as him.ACC  
'I am painting a nicer picture than him.'

# Results

	<b>Case-ambiguous</b>	<b>Nominative</b>	<b>Accusative</b>
Mean	4.60	4.38	1.10
Median	5	5	1
Variance	0.61	0.86	0.93
Standard deviation	0.79	0.94	0.31

## Internal reading

- (11) 'Context: [Your sister / Your brother] is fairly tall but not [the tallest woman / the tallest man] in the world.'
- a. Ich kenne eine größere Frau als **sie**.  
I know.1SG a.F taller.F woman as she.NOM/ACC  
'I know a taller woman than her.'
- b. Ich kenne einen größeren Mann als **er**.  
I know.1SG a.M taller.M man as he.NOM  
'I know a taller man than him.'
- c. Ich kenne einen größeren Mann als **ihn**.  
I know.1SG a.M taller.M man as him.ACC  
'I know a taller man than him.'

# Results

	<b>Case-ambiguous</b>	<b>Nominative</b>	<b>Accusative</b>
Mean	4.35	1.92	4.65
Median	5	1	5
Variance	0.98	1.74	0.44
Standard deviation	1.00	1.33	0.67

## NF position

in both readings in the present-tense condition: no verb in the right sentence bracket to show whether there is extraposition to the NF

perfective condition: two surface positions for the *als*-XP: before or after the right sentence bracket

## External reading

patterns for case-ambiguous *sie*:

- (12) 'Context: My siblings have moved to the countryside and each has built a house. [My sister / My brother] has no children.'
- a. Mein Bruder hat [ein größeres Haus [als  
my.M brother has a.N bigger.N house as  
sie]] **gebaut**.  
she.NOM/ACC built.PTCP  
'My brother has built a bigger house than her.'
- b. Mein Bruder hat [ein größeres Haus] **gebaut** [als  
my.M brother has a.N bigger.N house built.PTCP as  
sie].  
she.NOM/ACC  
'My brother has built a bigger house than her.'

## Internal reading

patterns for case-ambiguous *sie*:

- (13) 'Context: [My sister / My brother] never takes care of the household. Be glad you are not married to [her / him].'
- a. Du hast [eine tollere Frau [als sie]]  
you have.2SG a.F greater.F woman as she.NOM/ACC  
**geheiratet.**  
married.PTCP  
'You have married a greater woman than her.'
- b. Du hast [eine tollere Frau] **geheiratet**  
you have.2SG a.F greater.F woman married.PTCP  
[als sie].  
as she.NOM/ACC  
'You have married a greater woman than her.'

# Results

	<b>External</b>	<b>Ext. extraposed</b>	<b>Internal</b>	<b>Int. extraposed</b>
Mean	4.42	4.58	4.54	3.88
Median	5	5	5	4
Variance	0.78	0.45	0.62	1.44
Standard deviation	0.68	1.32	0.80	1.21



## Interpretation

not all differences are significant ( $P < 0.05$ ) → no one-to-one correspondence between the surface position and reading

specifically: only slight preference for extraposition in the external reading

significant results:

- internal reading: no extraposition preferred over extraposition ( $P = 0.0022$ )
- NF position: better for the external reading than for the internal reading ( $P = 0.0007$ )

## External reading

patterns for case distinction with *er/ihn*:

- (14) 'Context: My siblings have moved to the countryside and each has built a house. [My sister / My brother] has no children.'
- a. Meine Schwester hat [ein größeres Haus [als er]]  
my.F sister has a.N bigger.N house as he.NOM  
**gebaut**.  
built.PTCP  
'My sister has built a bigger house than him.'
- b. Meine Schwester hat [ein größeres Haus] **gebaut**  
my.F sister has a.N bigger.N house built.PTCP  
[als er].  
as he.NOM  
'My sister has built a bigger house than him.'

## Internal reading

patterns for case distinction with *er/ihn*:

- (15) 'Context: [My sister / My brother] never takes care of the household. Be glad you are not married to [her / him].'
- a. Du hast [einen tolleren Mann [als ihn]  
you have.2SG a.M greater.M man as he.ACC  
**geheiratet.**  
married.PTCP  
'You have married a greater man than him.'
- b. Du hast [einen tolleren Mann] **geheiratet**  
you have.2SG a.M greater.M man married.PTCP  
[als ihn].  
as he.ACC  
'You have married a greater man than him.'

# Results

	<b>External</b>	<b>Ext. extraposed</b>	<b>Internal</b>	<b>Int. extraposed</b>
Mean	4.17	4.58	4.04	4.46
Median	5	5	4	5
Variance	1.34	0.58	1.37	0.54
Standard deviation	1.17	0.77	1.18	0.74

## Interpretation

significant result for the external reading: extraposition preferred over no extraposition ( $P=0.0321$ )

specifically:

- internal reading: no significant preference for no extraposition over extraposition
  - NF position: no significant preference for the external reading over the internal reading
- changing the case-ambiguous remnant (*sie*) to a case-unambiguous one (*ihn*) in the NF significantly improves the acceptability of the sentence ( $P=0.0056$ )

# Analysis

asymmetry between the readings in case-ambiguous patterns supports the view that there is an extraposition operation: not merely two base-generated patterns

asymmetry is also influenced by morphological factors (contextual inflection not a core syntactic property)

# Positions

difference between positions:

- DP-edge position largely neutral
- NF position significantly worse for remnants in internal readings per se

but: difference between positions influenced if case is visibly marked:

- but: NF position significantly more acceptable for remnants in the internal reading if they are overtly accusative
- DP-edge position less preferable for overtly nominative remnants

## Case

case assignment: DP-edge position part of an accusative DP

accusative case for remnants in predicative clauses comes from the matrix verb (Bacskai-Atkari 2021) – instead of default nominative case, the remnant DP bears the accusative case assigned to the adjacent direct object in the matrix clause

rightward movement not fully optional: extraposition taking the DP away from the position-bound case position improves with overt morphological marking



# Ordering

order of operations in the post-syntactic component:

- first: morphological case assigned in the morphological module (MM) – late insertion (Distributed Morphology, see Halle & Marantz 1993, Embick & Noyer 2007)
- second: extraposition to NF (if at all)

## Other operations

relation to other extraposition operations:

- extraposition of the *als*-clause similar to the extraposition of attributes
- extraposition of the *als*-clause differs from the extraposition of PP arguments of verbs (base generation, case from P) – verb relevant for case marking of the remnant in comparatives

expected inasmuch as the *als*-clause is base-generated as part of an attribute and comparative clauses in general show parallel behaviour to relative clauses (Brandner & Bräuning 2013, Jäger 2018, Bacskai-Atkari 2018)

# Conclusion

extraposition of (elliptical) comparative subclauses in German

- rightward movement to the NF
- rightward movement takes place after morphological case is expressed (MM)
- no genuine optionality – morphological case decisive

theoretical implication: a postsyntactic movement operation governed by postsyntactic (morphological) factors

Thank you!

Danke!

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