

Verbs in Possessor Ascension Alternation: the Case of German

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A | *L* | S 2022, University of Melbourne
December 2, 2022

Verb alternations

Verb alternation: one verb appears in two (or more) different syntactic frames

(1) **Dative alternation**

- a. *Peter gave Mary a book.*
- b. *Peter gave a book to Mary.*

(2) **Locative alternation**

- a. *Peter sprayed paint on the wall.*
- b. *Peter sprayed the wall with paint.*

(3) **Body-part possessor ascension alternation**

- a. *Peter kissed Mary's cheek.* **Attr. possess. frame**
- b. *Peter kissed Mary on the cheek.* **Ext. possess. frame**

What is interesting about verb alternations?

- Meaning differences between the alternating forms
- The source of these differences
- Verb alternations as a playground for the research on verbal semantics: identification of classes of verbs and components of verb meaning (e.g., Levin (1993))

Goals of the presentation

- Isolate verbs that appear the external possessive frame of the body-part possessor ascension alternation
- Unlike attributive possessives, accusative external possessives presuppose physical attachment between possessor and possessee
- Verbs appearing in body-part possessor ascension alternation bare "double entailment": they entail the same (potential) result state for the possessor and the possessee
- The double entailment holds due to:
 - the internal argument structure of the verb: possessee in the prepositional phrase is an "incorporated" object
 - the restriction on the result state entailed by the verb: the verb must not entail a quantized change in the undergoer.

Agenda

- State of research
- Puzzling cases
- Data and Methodology
- Isolating verbs: double entailment condition
- What makes double entailment work?

Meaning differences between alternating forms

- Affected possessor in external possessives vs. distant possessor in attributive possessives (e.g., Chappell and McGregor 1996, Heine 1997).
- In external possessives, possessor is mostly animate
- Verbs appearing in are mostly verbs of direct physical influence

Towards the isolation of verbs

Levin (1993):

- **Generalization:** unlike *hit-*, *cut-*, and *touch-*verbs, *break* and *carve-*verbs do not allow for attributive-external possessive alternation.

- (4) a. *Peter touched Paul on the arm.*
b. **Peter broke Paul on the arm.*

- **Explanation:** to participate in body-part possessor ascension alternation verbs must entail physical contact.

? What about *carve-*verbs?

Towards the isolation of verbs

Dowty (2001):

- External possessives are derived from attributive possessives.
- To serve as a base for derivation, a verb must entail physical contact and motion.
- "Part-to-hole spread" must hold: the relationship between the Agent and the body part entails that the same relationship holds between the Agent and the possessor of that body-part.

- (5)
- Mary touched the toenail on John's big toe.*
 - (therefore) *Mary touched John's big toe.*
 - (therefore) *Mary touched John's foot.*
 - (therefore) *Mary touched John's body.*
 - (therefore) *Mary touched John.*

Towards the isolation of verbs

Dowty (2001):

- **Explanation for *break* verbs:** "out-of-order" entailment holds for the part, but not for the whole.

? The forms considered by Dowty (2021) lack a PP with the possessee.

? But what about other *break*-verbs, such as *deformieren* 'to deform' and *einschlagen* 'to smash'?

- (6) * *Peter hat seinen Freund am Bein deformiert.*
Peter has his friend:ACC on the leg deformed
int.: 'Peter deformed his friend on the leg.'

Towards the isolation of verbs

Massam (1989):

- Three classes of verbs:

Verbs which entirely transform their objects: *destroy, break, kill, create*, etc.

Verbs which physically affect but do not transform their objects: *hit, kiss, touch, punch, wound*, etc.

Verbs which have no physical affect on their objects: *watch, see, hear, like*, etc.

Towards the isolation of verbs

Massam (1989):

- Three classes of verbs:

Verbs which entirely transform their objects: *destroy, break, kill, create, etc.* → DON'T ALTERNATE

Verbs which physically affect but do not transform their objects: *hit, kiss, touch, punch, wound, etc.* → ALTERNATE

Verbs which have no physical affect on their objects:
watch, see, hear, like, etc.

- ? But what about verbs such as *deformieren* 'to deform', and *einschlagen* 'to smash'?

Major challenge to existing approaches: resultatives

- (7) *Die Katze hat die Wange des Mädchens gekratzt / zerkratzt.*
the cat has the girl's cheek **scratched / scratched up**
'The cat scratched / scratched up the girl's cheek.'
- (8) *Die Katze hat das Mädchen gekratzt / zerkratzt.*
the cat has the girl **scratched / scratched up**
'The cat scratched / scratched up the girl.'
- (9) *Die Katze hat das Mädchen auf der Wange gekratzt / *zerkratzt.*
the cat has the girl on the cheek **scratched / scratched up**
'The cat scratched / *scratched up the girl on the cheek.'

Levin's physical contact approach (1993): **X**

- (7) entails (8) with both verbs, *kratzen* 'scratch' and *zerkratzen* 'scratch up', but the latter does appear in the external possessive frame

Dowty's (2001) impact-spread approach: **X**

Massam's (1989) entirety of transformation approach: **X**

Methodology

- Verbs considered: verbs of physical influence with different levels of affectedness (cf. Beavers 2011)

Beavers (2011) captures affectedness as specificity of result state entailed by a verb captured as a scale:

quantized ch. - **non-quantized ch.** - **potential ch.** - **not specified f. ch.**
(*cut through*) (*cut*) (*hit, kiss*) (*see, follow*)

- Analysis of syntactic behavior of these verbs as related to their appearance in attributive and external possessive frames

Presupposed relationships

Attributive possessives:

- (10) a. *Peter grabbed Mary's arm.* **body-part rel.**
b. *Peter grabbed Mary's backpack.* **free rel.**

External possessives:

- (11) a. *Peter grabbed Mary by the arm.* **phys. attachment**
b. *Peter grabbed Mary by the backpack.* **phys. attachment**

- Unlike attributive possessives, for external possessives to be acceptable, presupposition of physical attachment must be satisfied.

Proposal

Double entailment condition:

Given that the presupposition of physical attachment is satisfied, to appear in external possessive frame of body-part possessor ascension alternation, the same (potential) result state entailed by the verb must hold for both participants, the possessor and the possessee.

- (12) *Die Katze hat das Mädchen auf der Wange gekratzt.*
the cat has the girl on the cheek scratched
'The cat scratched the girl on the cheek.'

That is, the result state entailed in (12), a scratch or being scratched holds for the girl and for the cheek at the same time.

What gives rise to the double entailment?

Weak definiteness of possessives

Claim: in external possessive frame, PPs are weak definite arguments of verbs that constitute a part of verb meaning denoting kinds of events.

(13) [[Peter kissed Mary on the cheek]] = [[Peter cheek-kissed Mary]]

Argumentation:

(i.) PPs do not specify the internal location or manner of the action (for opposite view on the issue cf. Fox 1981; Evans 1996; Michelson 1991)

- (14) a. *Peter küsste Marie wach.*
Peter kissed Marie awake
'Peter kissed Marie awake.'
- b. **Peter küsste Marie auf die Wange wach.*
Peter kissed Marie on the cheek awake
int.: 'Peter waked up Marie by kissing her on the cheek.'

What gives rise to the double entailment?

Weak definiteness of possessives

Argumentation:

(ii.) PPs do not locate result inside the possessor (for opposite view on the issue cf. cf. Levy 1999)

- (15) * *Die Katze hat das Mädchen auf der Wange zerkratzt.*
the cat has the girl on the cheek scratched up
int.: 'The cat scratched the girl up on the cheek.'

What gives rise to the double entailment?

Argumentation:

(iii.) PPs show behavior of weak definites (cf. Vergnaud and Zubizarreta 1992)

- PPs allow only distributive readings;
- Independently of the possessor's number, possessives are encoded by nominal phrases in singular;

(16) a. *Marie hat die Kinder auf **die Wange** geküsst.*
Marie has the children on **the cheek:SG** kissed
'Marie kissed the children on the cheek.'

b. # *Marie hat die Kinder auf **die Wangen** geküsst.*
Marie has the children on **the cheeks:PL** kissed
'Marie kissed the children on the cheeks.'

What gives rise to the double entailment?

Argumentation:

- (iii.) PPs show behavior of weak definites (cf. Vergnaud and Zubizarreta 1992)
- PPs allow only restrictive, but not non-restrictive adjectival modifiers.
- (16) a. *Marie hat das Kind auf **die linke Wange** geküsst.*
Marie has the child on **the left cheek** kissed
'Marie kissed the child on the left cheek.'
- b. # *Marie hat das Kind auf **die rote Wange** geküsst.*
Marie has the child on **the red cheek** kissed
'Marie kissed the child on the red cheek.'

What gives rise to the double entailment?

Weak definiteness of possessives

- Possesives in PPs are weak definites.
- Weak definite objects of transitive verbs are claimed to refer to kind arguments that semantically differ from formally same verbs taking definite arguments (cf. Poesio 1994; Barker 2004; Dayal 2011; Aguilar-Guevara and Zwarts 2010; Schwarz 2014).



- Verbs in external possessive frame have two objects. This allows these verbs to bare double entailment, i.e., to entail the same result state for two entities, the possessor and the possessee.

Why doesn't double entailment hold for some resultative verbs?

Recall: Such resultative verbs like *zerkratzen* 'scratch up', *durchstechen* 'pierce through', *brechen* 'break' that do not appear in possessor ascension alternation are correctly ruled out by the double entailment condition.

? Why?

Claim: These verbs cannot bare double entailment because the entailed result state is quantized (or specific). The same quantized result state cannot hold for two entities standing in a part-whole relationship to each other.

Why doesn't double entailment hold for some resultative verbs?

- Verbs that entail quantized change can be filtered out by application of telicity diagnostics (*in an hour* vs. *for an hour* (Dowty 1979))

(17) *Peter hat sich den Arm*
 Peter has himself the arm
*in einer Stunde / *eine Stunde lang gebrochen.*
 in an hour / *for an hour broken
 'Peter broke his arm in an hour / *for an hour.'

(18) *Peter hat das Brot in einer Stunde / eine Stunde lang*
 Peter has the bread in an hour / for an hour
geschnitten.
 cut
 'Peter cut the bread in an hour / for an hour.'

Why doesn't double entailment hold for some resultative verbs?

- Verbs that entail quantized change can be filtered out by application of telicity diagnostics (*in an hour* vs. *for an hour* (Dowty 1979))
- For telic verbs, the entailed result cannot hold for both undergoer and its subpart.

Double entailment vs. Quantized change

? Why can't we then use telicity or the entailment of quantized change as a tool for the isolation of the verbs appearing in external possessive frame?

- There are atelic verbs that do not appear in external possessives, we only can sort them out applying double entailment diagnostics (e.g., *torture* verbs and other verbs that do not subcategorize for inanimates)

(17) *Peter hat Paul gequält.*
Peter has Paul tortured.
'Peter tortured Paul.'

(18) **Peter hat Paul am Bein gequält.*
Peter hat Paul:ACC on the leg tortured
int.: 'Peter tortured Paul on the leg.'

Conclusions

- Goal: isolate verbs that appear in external possessive frame of body-part possessor ascension alternation.
- To appear in the external possessive frame the double entailment must hold: a verb must entail the same result state for two undergoers, the possessor and the possessee.
- Weak definiteness of the possessee encoded as a PP in the external possessive frame gives rise to the double entailment.
- Specificity of result blocks double entailment because the same quantized result cannot be true for two entities standing in a part-whole relationship to each other.

Thank you!

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