

## How a directional particle gives rise to possessive semantics

### A lexical semantic analysis of “zuwerfen” and other particle verbs of ballistic motion

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Introduction

The Ditransitivity Hierarchy (Croft et al. 2001)

**give < send < throw**

English: (1) a. John **gave** **Mary** a package  
                   John gave a package **to Mary**

                  b. John **sent** **Mary** a package  
                   John sent a package **to Mary**

                  c. John **threw** **Mary** a package  
                   John threw a package **to Mary**

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Introduction

The Ditransitivity Hierarchy (Croft et al. 2001)

**give < send < throw**

German: (2) a. John **gab** **Mary** ein Paket  
                   **\*John gab ein Paket zu Mary**

                  b. John **schickte** **Mary** ein Paket  
                   John schickte ein Paket zu Mary

                  c. **\*John warf** **Mary** ein Paket  
                   John warf ein Paket zu Mary

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Introduction

The Ditransitivity Hierarchy (Croft et al. 2001)

**give < send < throw**

**Give:** entails caused possession

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**Throw:** entails caused motion

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Argument realization options for *send*- and *throw*-type verbs:

English alternation	German alternation
Oli sent the child the letter	Oli schickte dem Kind den Brief
Oli sent the letter to the child	Oli schickte den Brief an das Kind
	Oli schickte den Brief zu dem Kind
Oli threw the child the ball	* Oli warf dem Kind den Ball
	<b>Oli warf dem Kind den Ball zu</b>
Oli threw the ball to the child	Oli warf den Ball zu dem Kind

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➤ Stronger constraint on ditransitive constructions in German

➤ Particle *zu* makes *werfen*-type verbs compatible with the ditransitive construction, the caused possession scheme

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➤ Why is the particle *needed* to make *werfen*-type verbs compatible with a caused possession event?

➤ How does it do it?

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The dative argument is a recipient:

The semantic role of the dative NP is the intended goal:

(3) Oli warf dem Kind den Ball zu, \*und/ aber sein Vater fing ihn.  
Oli threw the child.DAT the ball.ACC to, \*and / but his father caught it.

“Oli ‘to-threw’ the child the ball, and/ but his father caught it (instead)”

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The dative argument is a recipient:

The denotee of the dative NP is restricted to animate beings:

(4) \*Oli warf dem Tor den Ball zu. (cf. Oli warf den Ball zum Tor).  
Oli threw the goal.DAT the ball.ACC to. (cf. Oli threw the ball.ACC to the goal (PP)).

“Oli ‘to-threw’ the goal the ball, cf. Oli threw the ball to the goal”

(5) Oli warf dem Kind den Ball zurück/weiter/hin (\*zurück dem Kind/ \*weiter dem Kind)

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Zuwerfen has not lexicalized into a possessive verb:

Zuwerfen is still found in caused motion events only:

(6) Einer nach dem andern warf den Totenschädel **auf das Ziel** zu.  
One after the other threw the skull.ACC onto the aim to-  
‘One after the other threw the skull towards the aim.’  
([http://www.sagen.at/doku/Andreas\\_Hofer/Wipptal\\_Volkskunde\\_1809.html](http://www.sagen.at/doku/Andreas_Hofer/Wipptal_Volkskunde_1809.html))

“auf das Ziel” is an inanimate, local goal point only, not a recipient.

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Zuwerfen has not lexicalized into a possessive verb:

Zuwerfen is still found in caused motion events only:

(7) Das bedeutet, dass der Rückkehrer - gerade **auf das Ziel zugeworfen** - in einem elliptischen Kreisflug um eben jenes herumflöge.  
‘This means that the ‘returner’ – after it has been “to-thrown” straight towards the aim – would fly around this aim in an elliptic circle.’  
(<http://home.arcor.de/tobias-pinner/docs/kyliebumerang.html>)

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Zuwerfen has not lexicalized into a possessive verb:

Other directional particles create the same effect:

- (8) Trifft er ihn nicht, wirft man ihm<sub>DAT</sub> den Ball<sub>ACC</sub> zurück. Er muß sein Glück aufs neue versuchen.

*'If he [the person who has the ball] doesn't hit him [one of the other players], one throws him the ball back. He has to try his luck again [to throw the ball and try to hit other players].'*

([www.jungtschar-schaetze.de/Sommerspiele.htm](http://www.jungtschar-schaetze.de/Sommerspiele.htm))

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Zuwerfen has not lexicalized into a possessive verb:

Other ballistic motion verbs create the same effect:

- (9) Sicherheitshalber wandte ich mich zu Menasche um und schmetterte ihm<sub>DAT</sub> ein fröhliches »Gute Nacht«<sub>ACC</sub> zu.

*'As a precaution I turned around to Menasche and "to-dashed" him a happy "Good night".'*

([www.ephraimkishon.de/Der\\_Erfolgsmesser.htm](http://www.ephraimkishon.de/Der_Erfolgsmesser.htm))

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No semantic difference between the dative variant and the prepositional variant of *werfen*-type verbs:

- (10) Sprechen Sie dann die erste Silbe und werfen gleichzeitig den Ball Ihrem Kind zu. Das Kind fängt den Ball. Ihr Kind spricht die zweite Silbe und wirft gleichzeitig den Ball zurück. Sie sprechen die dritte Silbe und werfen gleichzeitig wieder den Ball zu Ihrem Kind.

*[...] throw simultaneously the ball.ACC your child.DAT to-. [...] throw simultaneously again the ball.ACC [to your child]<sub>pp</sub>  
'Then speak the first syllable and, simultaneously, throw your child the ball. The child catches the ball. Your child will speak the second syllable and, simultaneously, throws the ball back. You speak the third syllable and, simultaneously, throw the ball to your child again.'*

(<http://www.abc-der-tiere.de/eltern/silbenmethode/voruebungen/>)

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Analysis of the semantics of *werfen* and *zuwerfen*

- *Werfen*-type verbs:  
entail the instantaneous imparting of force in some manner causing ballistic motion (Pinker (1991, 110))
- Particle *zu* (as preposition *zu*) denotes the direction toward a goal (point).

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Conclusion 1. : *zuwerfen* has compositional semantics

*zuwerfen* (Olsen (1997), in the framework LDG):

[WERF(x,y) & BECOME (LOC(y, AT\*[z]))](s)

Conclusion 2: the 'recipient effect' :

Ballistic motion verb+ directional particle + dative NP creates recipient reading.

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➤ Why is the particle *needed* to make *werfen*-type verbs compatible with a caused possession event?

• A dative marked recipient argument in German is selected by a verb that entails caused possession.

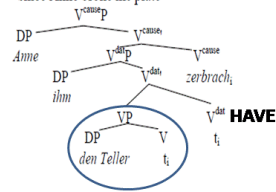
- *Werfen* does not entail caused possession, so something else is needed to license caused possession.

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Excursus: two datives:

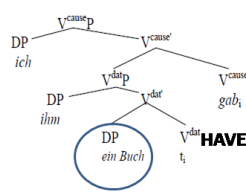
McIntyre (2006) :

a. (weil) Anne ihm den Teller zerbrach  
 since Anne him<sub>DAT</sub> the plate<sub>ACC</sub> broke  
 'since Anne broke his plate'



Event-related dative

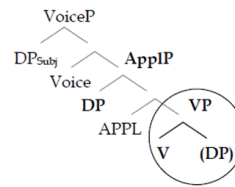
b. (weil) ich ihm ein Buch gab  
 since I him<sub>DAT</sub> a book<sub>ACC</sub> gave  
 'since I gave him a book'



Entity-related dative

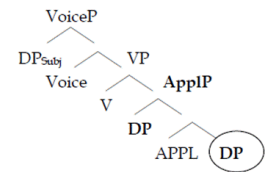
**Pylkkänen (2002): the high applicative and the low applicative**

a. HIGH APPLICATIVE



Event-related applicative

b. LOW APPLICATIVE



Entity-related applicative

The semantics of dative arguments in German:

- a HAVE-relation is a 'hold'-relation.
  - Haben/have > IE \*kap (grasp, catch, hold)
  - Southern German:
    - **Heb** mir mal bitte meine Tasche ('Hold my bag, please')

The semantics of dative arguments in German:

- 'havers' of entities are **animate possessors** or **inanimate wholes of parts**
  - Ich habe ein Buch / I have a book
  - Die Geschichte hat einen Titel / The story has a title

- 'havers' of events are **animate experiencers**. They hold, grasp, are part of an event by experiencing it.

- Ich hatte einen Unfall / I had an accident = I experienced an accident
- \*Der Zug hatte einen Unfall / \*The train had an accident (unless personified)

- The role of the experiencer includes the traditional roles of benefactor, malefactor, possessor, interested person (ethical dative), and also deprivee

Selectional restrictions of German dative arguments:

- 'havers' of entities may be animate possessors or inanimate wholes of parts
  - are selected by verbs that denote the establishment of a have-relation, as verbs of possession *geben, verkaufen, verleihen*, .
- 'havers' of events have to be animate experiencers
  - are not selected by the verb, but added optionally to verbs that imply some activity, best also some result.

## Summary

	entity-related dative	event-related dative
selection	selected	non-selected
interpretation	entailed in semantics of the verb	inferred from the semantics of VP/ context
Semantic role	recipient	experiencer

### The dative argument of *werfen*-type verbs

• *werfen* does not entail change of possession, nor any other have-relation.

• → dative argument cannot be a selected recipient dative.

\* Oli warf Susi<sub>DAT</sub> den Ball<sub>ACC</sub>  
Oli threw Susi the ball



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### The dative argument of *werfen*-type verbs

➤ dative argument is a non-selected event-related dative.

Interpretation of a dative argument with the base verb alone:

**beneficiary:**



(11) Janina hat **mir** das Stöckchen geworfen.

Janina has **me.DAT** the stick.ACC thrown.

'Janina threw the stick **for me.**'

(<http://www.sheltie-tico.de/tj/M.ae.rz-2010.htm>)

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### The dative argument of *werfen*-type verbs

➤ dative argument is a non-selected event-related dative.

Interpretation of a dative argument with the base verb alone:

**beneficiary:**



(12) Baby, ich schieß **dir** einen Teddybär.

Baby, I shoot **you.DAT** a teddybear.ACC

'Baby, I will shoot a teddy bear **for you.**'

(from a German Schlager by Joerg Maria Berg)

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➤ Dative arguments of *werfen*-type verbs alone are not recipients.

BUT:

➤ Dative arguments of *schicken*-type verbs ARE recipients:

(13) Oli schickte dem Kind einen Brief (\*und/ aber es bekam ihn nicht.)

Oli sent the child.DAT a letter.ACC (\*and/ but he didn't receive it.)

WHY?

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Werfen-type verbs are non-directional:

They do not specify direction  
They do not lexicalize a goal argument.

→ Difference to *schicken* (send)-type verbs!

(14) a. Er warf den Ball im Zimmer rum<sup>1</sup>.  
*He threw the ball.ACC in-the room around*  
*'He threw the ball around in the room.'*



b. Er schickte den Brief in Hamburg rum.  
*He sent the letter.ACC in Hamburg around*  
*'He sent the letter around Hamburg.'*



<sup>1</sup> particle that creates a durative/iterative, often careless activity variant of the base verb.

How does the particle turn *werfen* into a possessive verb?

- The particle adds **salient direction** and makes *werfen*-type verbs semantically similar to *schicken*-type verbs
- The particle adds an empty goal slot into the semantic representation, which is now being filled with a free dative.
- The unsaturated goal semantics binds the experiencer interpretation to be a goal, not just a mere beneficiary.
- the interpretation of this dative argument is now a beneficiary goal: a recipient.

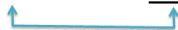
The recipient interpretation of the dative argument of *zuwerfen*:

Zu (to) adds an empty goal slot into the semantic representation:

(15) a. \* Oli warf den Ball zu  
*Oli threw the ball.ACC to-*

This position is now being filled with a free dative and its interpretation gets bound to be a goal.

b. Oli warf **dem Kind** den Ball \_\_\_\_\_ zu  
*Oli threw the child.DAT the ball.ACC to-*



The free dative can still be isolated as the beneficiary only:

(16) Oli warf **dem Kind** den Bumerang auf den Zielpunkt zu  
*Oli threw the child.DAT the boomerang.ACC onto the goalpoint(PP) to-*  
*'Oli threw the boomerang towards the goal point for the child'*

Similar: The dative argument of *schicken*:

→ the experiencer to be the receiving experiencer.

(17) a. \* Oli schickte den Brief (WOHIN??)  
*Oli sent the letter.ACC (to where??)*

b. Oli schickte **dem Kind** den Brief \_WOHIN?\_  
*Oli sent the child.DAT the letter.ACC to-*



Similar: The dative argument of *schicken*:

Speculation: the dative argument of *schicken* is also a non-selected experiencer dative

➤ *schicken* does NOT have two lexical entries, only a non-possessive

### The remaining question:

- Why is the person to which the ball is thrown realized as a non-selected dative argument and not as a default PP?

(19) ? Oli warf den Ball auf das Kind zu/ zum Kind zurück  
Oli threw the ball onto the child/ back to the child



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### Speculation: Animacy effect

Kittilä (2008): choosing an animate goal participant in a transfer situation often triggers a differential marking of the argument (here the dative case)

- The person is realized as an experiencer because of his/her capability of experiencing and the high probability that the event affects the animate being in some way.



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### Summary

- The particle adds directional semantics to a non-directional base verb
- By choosing an animate goal, which automatically will also experience the event, the realization of the goal as a dative DP rather than a PP is triggered.
- The salient directional semantics binds the interpretation of this non-selected dative argument, which is actually only the experiencer of the event, to be the recipient.
- Thus the construction is compatible as a ditransitive construction realizing a caused possession event.<sup>37</sup>

### ...Throwing the ball back:

- Why does English allow simple *throw*-type verbs to form ditransitives?

➤ possible answers:

1. different morphological resources
2. English as a “low applicative language”

(Pylkkaenen): it does not have a (pure) benefactive interpretation and does not need to disambiguate semantic roles of its ‘dative’ argument:



(20) ?? Baby, I'll shoot you a teddy bear!

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