Agentivity and Force Exertion: the German Verb *schlagen*
Overview

1. The German verb *schlagen* ('hit, strike, beat…'): The meaning of the transitive construction

2. The meaning spectrum: *schlagen* and its constructional variants

3. Semantic domains, Frames, and modifiers

4. Agentivity and force exertion
1 German *schlagen*: Constructional variants and semantics

a. The transitive construction:

Wenn ein Bauer einen Esel hat, dann schlägt er ihn.
'If a farmer owns a donkey, then he beats it.'

b. Constructions with inanimate targets

• Agent + oblique (directional PP)
  "Der Bauer schlug (mit der Faust) auf den Tisch"
  'The farmer hit (his fist) on the table'

• Unaccusative with directional PP
  "Die Gitarre schlug gegen die Wand"
  'The guitar hit the wall'

Claim: The transitive use, though prototypical, is not the semantically simplest case. Rather, it has a feature composition that is more complex than other variants.
1 The transitive construction and the problem of "affectedness"

**Claim:** The transitive use, though prototypical, is not the semantically simplest case. Rather, it has a feature composition that is more complex than other variants.

- We are led to this claim by an examination of the "affectedness effect" in German. Such an effect is generally reported for the objects of *hit*-verbs, e.g. Levin (2015):
  
  "Some languages resist expressing the surface [i.e., TARGET] as a direct object, especially when inanimate, apparently requiring a high degree of ‘affectedness’ for objecthood."

- Lundquist & Ramchand (2012): In Germanic (apart from English), direct objects of *hit*-verbs have to be animate because there are more options to infer a change (= affectedness) for them.
1 The transitive construction and the problem of "affectededness"

• Generalisation on German *schlagen*:
  
  i.  Der Bauer schlug den Esel.  The farmer hit the donkey.
  
  ii.  * Der Bauer schlug den Tisch.  ok The farmer hit the table.
  
  iii. Der Bauer schlug den Tisch in Stücke.  …smashed it to pieces.

  **Note:** The effect holds only in simple transitive constructions ( = i./ii.).

Interpretation:

• In a resultative construction (iii), the effect disappears because the object is thematically dependent on the result predicate. The effect occurs when the object depends solely on the verb (ii).

• German *schlagen* cannot assign a semantic role "antagonist of forceful impact" to a direct object.
1 Schlagen and the problem of "affectedness"

- However, lexicalised collocations with schlagen do allow inanimate and even unaffected objects (cf. c) in a simple transitive construction:

a) Created objects (productive?)
   ein Loch / einen Krater schlagen  ('to make a hole / crater')

b) Cutting wood
   Vorerst darf kein gesundes Holz mehr geschlagen werden,
   'For the time being, no healthy wood may be [cut / felled],
   sondern nur beschädigte Bäume.
   but only damaged trees'

c) Playing musical instruments (unaffected)
   die Trommel schlagen  ('to beat the drum')
   die Laute / die Orgel schlagen  ('to play the lute / organ')
1 **Schlagen and the problem of "affectedness"**

Lexicalised collocations with *schlagen* allow inanimate and even unaffected objects (cf. c) in a simple transitive construction:

a) Created objects
b) Cutting wood
c) Musical instruments

Transitive constructions may also have metaphorical meanings:

d) **Defeat**

> Das Computerprogramm schlägt jeden menschlichen Spieler
>
> The computer programme beats any human player

Hypothesis:

- In general, the simple transitive variants that can occur with *schlagen* have specialised meanings (which are lexically fixed).
- The "affectedness effect" is part of this picture: The list should include

e) 'Violence involving sentient participants'
1 Schlagen and the problem of "affectedness"

- Note: The animateness constraint extends to subjects. This points to a more narrow meaning than just affectedness of the object.

   A rebounding twig hit me.ACC

    A wave hit me.ACC hard

- It is only the simple transitive construction that shows this constraint:

iii. *Ein zurückschnellender Zweig schlug mir ins Gesicht*  
    A rebounding twig slapped me.DAT in the face

iv. *Die Wellen schlugen mir heftig entgegen*
    The waves struck me.DAT hard in (my) way
    'The waves struck hard against me'
1 Schlagen and the problem of "affectedness"

i. ? Ein zurückschnellender Zweig schlug mich.
   A rebounding twig hit me.ACC

• Note also: animate subjects are only required in the constructional meaning "violence among sentient beings", but not in transitive constructions with other kinds of meanings, as with created objects:

   Der Hammer traf gegen die Wand und schlief dort ein Loch.
   The hammer hit against the wall and (knocked?) there a hole.
Distinguishing "force" vs. "violence"

- The simple transitive construction encodes a high-level "violence" concept (or other lexicalised meanings, as above):
  
  i. *Der Bauer schlug den Esel*

  Agent  Patient

  ii. *Der Bauer schlug den Esel (mit dem Stock) (auf den Rücken)*

  The farmer beat the donkey with the stick on its back.

  Instrument (moving, hand-held)  Target / Place

- Adjuncts may show additional aspects, pertaining to a 'mechanical', force-dynamic level:

  ii. *Der Bauer schlug den Esel (mit dem Stock) (auf den Rücken)*

  The farmer beat the donkey with the stick on its back.

  Instrument (moving, hand-held)  Target / Place

FORCE TRANSMISSION:

source of force —> (forceful) movement —> (forceful) impact
2 Schlagen and its constructional variants

The non-transitive constructions seem to encode only the more elementary aspect of force transmission:

– Agent + **oblique** directional complement (inanimate targets):

(i)  
*Der Bauer schlug (mit der Faust) auf den Tisch.*

The farmer *'hit' (with his fist) onto the table.*

source of force —> (forceful) movement —> (forceful) impact

– **Unaccusative** variant:

(ii)  
*Die Gitarre schlug gegen die Wand.*

The guitar *hit against the wall.*

source of force —> movement —> (forceful) impact

Unaccusative constructions do not represent, but entail, external causation (Levin & Rappaport 1995).
The Resultative construction, esp. directional resultatives:

(i) \( Er \text{ schlug} \) [ \text{die Gitarre gegen den Tisch.} ]
    He \hit\ the guitar against the table.

\( \text{source of force} \rightarrow (\text{forceful}) \text{ movement} \rightarrow (\text{forceful}) \text{ impact} \)

(ii) \( Er \text{ schlug} \) [ \text{den Ball ins Aus.} ]
    He 'hit' the ball off.

(iii) \( Er \text{ schlug} \) [ \text{den Staub aus den Kleidern.} ]
    He \beat\ the dust out of the clothes.

\( \text{forceful impact} \rightarrow \text{effected movement} \)

In this resultative pattern, accusative complements always denote moved objects (cf. Vogel 2013), but
– this movement may either be a component of the hit itself (i),
– or its effect (i.e., a second event).
2 Schlagen and its constructional variants

• A special type of example involving directionals:

(i) Der Bauer schlug (mit der Hand) nach der Fliege (aber traf sie nicht)
    The farmer 'hit' (out) with his hand at the fly (but didn't hit it)

    source of force —> movement (forceful) impact

A situation can be called schlagen even in the absence of a 'hit' (i.e., contact).
Only Force + Movement are the obligatory components of schlagen (# engl. hit).

(Note: This is not a special "conative" alternant, but a general effect that may appear in the interpretation of various directional phrases in German, cf.:
(ii) Er schlug in meine Richtung / ins Leere / vorbei etc.)
    'He hit in my direction / into the void / past'
The event concept can be decomposed into several qualitative domains:

• **Force transmission:** (minimally) from force generator to moving object /*impactor* and further to *target*; ± specification of effects

• **Spatial description:** Movement is connected to force, but separable; direction, ± contact

• *"The Moral / Social Domain"* (cf. transitive construction);

• More: intentionality…

The domain decomposition can be taken care of by a "Frame" model: a structured network composed of attribute-value pairs, which also encodes the interdependencies of the components.

The domain decomposition indicates how manner modifiers may target the verb meaning.
3 Semantic domains in *schlagen*

• The simple transitive construction encodes a high-level "violence" concept (or other lexicalised meanings, as above):

  i. *Der Bauer schlug den Esel*


  ![Diagram showing semantic domains](image)

• Adjuncts may show additional aspects:

  ii. *Der Bauer schlug den Esel (mit dem *Stock*) (auf den Rücken)*

      The farmer beat the donkey with the stick on its back.

      ![Diagram showing additional aspects](image)
Cf. Petersen (2015) for a general introduction, Goldschmidt et al. (forthc. 2016) for the case of "schlagen"
3 Schlagen: Corpus study on modifiers

Preliminary collection of modifiers that occur with schlagen across 5 different constructions. Some observations (without statistics):

– No adjectives with agentive/psychological components as modifiers in the unaccusative construction (as expected)
– No modifier occurs exclusively in the unaccusative construction.

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3 Force vs. violence: evidence from modifiers

- The modifiers *brutal* and *grausam* (*cruel*) show an extreme peak in the simple transitive construction.
- They are arguably the only adjectives in the sample that refer to a moral dimension of action and imply two sentient participants in this.

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3 Force-related modifiers

- Many of the most frequent modifiers seem to be adjectives that exclusively refer to force; however they may denote high or low values on a force scale. (Lexical analysis of the adj. pending).

- Note compatibility with movement alone: 
  \textit{Kräftig / leicht nach jemandem schlagen}.

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Summary 3:

• The core feature of schlagen is a forceful directed movement, embedded in a chain of events: "force transmission".

• The interpretations of different constructions with schlagen lead to the recognition of additional conceptual domains that may be involved:
  ± Agent / Causer
  ± Contact with target; effect (e.g. effected movement of an object)
  ± Higher-level concepts involving attributes of sentient participants (e.g. "violence")

• These form a network of relations and constraints to be described as a Frame.

• The domain structure also accounts for the interpretation and patterning of modifiers.
4 Agentivity and force exertion

• The core feature of *schlagen* is a forceful directed movement, the event unfolds as a chain of subevents:

  source of force $\rightarrow$ (forceful) movement $\rightarrow$ (forceful) impact

• Question: How do the concepts "force generator" and "agent" relate to each other?

• Claim: The core representation of *schlagen* always requires some source capable of generating force
  – but this source can be external or internal and have different thematic roles across the possible variants. [Similarly, the "moving object" doesn't match any single "thematic role"].
  – In any case, whenever an agent is present, it is always the force generator.
source of force —> (forceful) movement —> (forceful) impact

• In the examples so far, the force came from a prototypical agent.  
• **Forces of nature** apparently create an ambiguity (cf. e.g. VALBU dictionary):

  i. *Der Regen ist / hat gegen das Fenster geschlagen.*  
     The rain 'is' / 'has' against the window 'hit'

  **Unaccusative or intransitive structures!**

**Interpretation:** "rain" may be conceptualised
a) as an object, moving passively due to an external force  
   (unaccusative, "be"-perfect),

b) or as a natural force in its own right. It then counts as the force-  
   generating source, on a par with an agent. ("have"-perfect)
4 Agentivity and force exertion

i. *Der Regen ist / hat gegen das Fenster geschlagen.*
   The rain 'is' / 'has' against the window 'hit'

cf. ii. *Der Wind ist / hat gegen den Rolladen geschlagen.*
   The wind 'is' / 'has' against the shutters 'hit'

Interpretation:
Wind can only function as a force, not as a moved object:
: no unaccusative construction in (ii.)

cf. iii. *Der Wind hat den Regen gegen das Fenster geschlagen.*
   The wind has the rain against the window 'hit'

"Rain" must have the role of a moving object in this example.
A natural force may appear as subject in resultative constructions.

Hence, forces and agents have equal status as subjects of *schlagen.*
4 Agentivity and force exertion

i. *Er schlug [den Rechner (immer wieder) gegen die Wand]*
   He hit the laptop (over and over) against the wall.

• A mysterious restriction: some constructions entail the use of the hands by the agent (with mysterious solutions proposed, e.g. Erteschik-Shir & Rapoport 2010)

Interpretation of instrument adjuncts leads to an analogous case:

ii. *[Er schlug mit dem Rechner] [— gegen die Wand]*

• At the level of conceptual interpretation, this is the case of an agent that is internal to the process, with continuous input of force (i.e. controlling the moving object on its way)

   (forceful) movement —> (forceful) impact
   source of force — — — — — — — — — — — — — — — — — — — — — — — — —

as opposed to cases with detached agent (initiator):

   source of force —> (forceful) movement —> (forceful) impact
4 Agentivity and force exertion

- It is generally acknowledged that *hit*-verbs do not enter into causative alternations (Levin 1993: 29). In line with this, we can only get an interpretation of *schlagen* with an agent as accompanying causer:

\[
\text{Er schlug } \ [\text{den Rechner (immer wieder) gegen die Wand}] \neq \ x \ \text{CAUSE} \ [\text{Rechner schlägt gegen die Wand}]
\]

laptop hits against the wall \(\approx \text{throw}\)

- However, some examples come close to a causative alternation.

  i. *Die Türe schlug zu*
      The door slammed shut.

  ii. *Er schlug die Türe zu*
      He slammed the door shut.

: It is simply the source of the **force** that is external to the movement component: source of force \(\rightarrow\) (forceful) movement \(\rightarrow\) (forceful) impact
4 Agentivity and force exertion

i. *Die Türe schlug zu*

ii. *Er schlug die Türe zu*

Any addition to the one-place variant has to involve the force-generating component, not "CAUSE" = general causation. The conceptual core of "schlagen" always comes with a force (= "manner") component.

………………………………………… movement —> (forceful) impact

Conclusion: Any agent will be employed merely as a generator of force (natural forces are also encouraged to apply).
– The core feature of schlagen is a forceful directed movement, hence the relevant generalisations on the word meaning come from the domain of force transmission.
– Other conceptual domains may be involved in addition, yielding a Frame structure (a relational network of attributes and values).

– Therefore, the core description of schlagen does not involve standard thematic roles, but is more narrowly formulated in terms of "source of force - moving entity - target".
… since standard thematic roles are what collects information from the whole event frame, coming from different domains.

Thank you!

This work was supported by a DFG grant to the SFB 991 (U Düsseldorf), project B09: "Modifiers as a probe into the frame structure of events" (S. Löbner / W. Petersen).
References


Goldschmidt, A.; Gabrovska, E.; Gamerschlag, T. & Petersen, W. (forthc.): "Does the rain hit the window playfully? A frame-based analysis of German hit-verbs." To be submitted for the proceedings of the 11th TbiLCC, September 21-26, Tbilisi, Georgia.


