

From Parts of Body to Parts of Speech

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Structure of the talk

- Motivation and Introduction
- Corpus Study
- Analysis
- Cases with accusative-instrumental alternation
- Further remarks
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Kinegrams

- ▶ We look at a specific class of idioms described in the German phraseological literatur, esp. by Burger (1976,2007), cf. also Dobrovolskij & Piirainen (2009).
- ▶ They are called **kinegrams** by Burger, alternatively **somatisms** by Fleischer (1982). Cf. also Donalies (2009).
- ▶ These idiomatic expressions literally all describe kinds of movements of body parts.
- ▶ e.g., *mit der Hand winken* (lit. 'wave with the hand'), *die Augenbraue hochziehen* (lit. 'pull up the eyebrow'), *mit den Zähnen klappern* (lit. 'chatter with the teeth'), etc.

What makes Kinegrams special

- ▶ Burger (1976): Kinegrams have a **literal** meaning, viz. the description of the actual movement of the body parts, ...
- ▶ and possibly a **symbolic** (2007: **phraseological**) meaning, viz. the description of a communicative act or similar.
- ▶ *mit der Hand winken* – lit.: movement of the hand – symb.: greet someone, beckon someone over
- ▶ *die Augenbraue hochziehen* – lit.: raising of the eyebrow – symb.: express astonishment or disdain
- ▶ *mit den Zähnen klappern* – lit.: make a chattering noise with one's teeth – symb.: express strong fear
- ▶ We have found that most kinegrams come from a **very limited class of syntactic constructions** (mostly two-place verbs with an accusative or an instrumental).



Semiotic structure

- ▶ Burger: Both meanings are co-instantiated, the expression describes both the movement and the communicative act simultaneously.
- ▶ This is unusual, since idiomatic meaning usually supresses the literal meaning (cf. also Langlotz 2006).
- ▶ Burger also sees this case as special by attributing the ambiguity not to the expression but to the described movement.
- ▶ **Not the linguistic expression is ambiguous, but the described movement of the body part is.**

Our study

- ▶ We look at verb-object idioms from the kinegram class.
- ▶ How are they realized in terms of case (or other construction)?
- ▶ Burger does not cleanly distinguish between **intentional emblematic gestures** (Ekman & Friesen 1969) and (usually) **non-intentional affect displays** and possibly other types of non-verbal behavior.
- ▶ We determine the mapping of linguistic form to these types.



Constructions examined using the COSMAS corpus I

Auge zwinkern (eye blink)	Hüfte schwingen (hip swing)	Stirn runzeln (forehead wrinkle)
Bein baumeln (leg dangle)	Hüfte wackeln (hip jiggle)	Stirn kräuseln (forehead wrinkle)
Braue hochziehen (eyebrow pull up)	Knie schlottern (knee shake)	Wimper zucken (eyelash twitch)
Daumen drücken (thumb press)	Kopf nicken (head nod)	Zahn blecken (tooth bare)
Fuß scharren (foot paw)	Kopf schütteln (head shake)	Zahn fletschen (tooth bare)
Fuß stampfen (foot stamp)	Mundwinkel zucken (corner of mouth twitch)	Zahn klappern (tooth chatter)

Constructions examined using the COSMAS corpus II

Hand klatschen (hand clap)	Nase rümpfen (nose wrinkle)	Zahn knirschen (tooth grind)
Hand ringen (hand wring)	Ohr wackeln (ear jiggle)	Zunge schnalzen (tongue click)
Hand winken (hand wave)		



### The corpus

- ▶ The study was conducted January, 2008.
- ▶ COSMAS II (<http://www.ids-mannheim.de/cosmas2/>) is a large reference corpus for German provided by the IDS (Institute for the German Language).
- ▶ At the time of the study, COSMAS II contained roughly 1.5 billion words.
- ▶ We examined roughly 15,000 sentences.

### Results I: instrumental construction

The following constructions (virtually) always have an instrumental PP with *mit* ('with'):

construction	%	abs.	construction	%	abs.
Mundwinkel zucken	100	5	Wimper zucken	99.11	450
Fuß stampfen	100	198	Kopf nicken	99.07	321
Zahn klappern	100	39	Zunge schnalzen	98.94	377
Fuß scharren	100	67	Hüfte wackeln	98.33	60
Ohr wackeln	100	71	Zahn knirschen	97.81	137
Hand winken	100	71	Hand klatschen	93.33	15
Auge zwinkern	100	114			

### Results II: accusative construction

The following constructions (virtually) always have an accusative NP (transitive):

construction	%	abs.	construction	%	abs.
Braue hochziehen	100	8	Nase rümpfen	99.49	990
Stirn kräuseln	100	10	Zahn blecken	98.73	79
Daumen drücken	100	2532	Zahn fletschen	96.02	176
Daumen drücken	99.6	534	Hüfte schwingen	95.29	276
Kopf schütteln	97.5	7419	Hand ringen	94.97	179

### Rare cases of true alternation

There are cases of alternation between acc. NP (transitive) and mit-PP (instrumental).

- (1) Dieser **rollte** vorerst **grimmig die Augen** ...  
that one rolled for now grimly the eyes<sub>ACC</sub> ...  
The aforementioned one rolled his eyes for the time being... (N96/JUN.25343)
- (2) Insgeheim **rollt** Tante Frieda ... **mit den Augen** ...  
in secret rolls aunt Frida ... with the eyes ...  
Aunt Frida is secretly rolling her eyes... (V97/DEZ.65758)

### Results III: alternation between accusative and instrumental

The following constructions alternate between accusative:

construction	% acc.	% instr.	abs.
<b>Auge rollen</b> (‘roll (with) the eye’)	40.71	59.29	226
<b>Achsel zucken</b> (‘shrug (with) the armpit’)	51.26	48.74	673
<b>Schulter zucken</b> (‘shrug (with) the shoulder’)	29.2	70.8	1452

### Results IV

Some verbs prefer yet other constructions like relinquatives (Abraham & Maché in prep.) or a construction with an inanimate subject and an experiencer dative:

- (3) Ich lasse die **Beine baumeln**.  
I let the legs dangle  
I allow my legs to dangle freely.
  - (4) Mir **schlottern die Knie**.  
me shake the knees  
My knees are shaking.
- ▶ Figures (abs.) for *Bein baumeln*: 27 instrumental, 46 relinquative.
  - ▶ Figures (abs.) for *Knie schlottern*: 8 instrumental, 87 experiencer dative.

### A first typology of constructions



### Types of non-verbal behavior covered by kinegrams

	emblems	illustrators	regulators	affect disp.	adaptors
awareness	usually aware	reduced awareness	peripheral awareness	often highly aware, but sometimes not	typically not aware
intent	usually intentional	reduced intent	almost involuntary	often unintentional, only sometimes	rarely intentional
coding	arbitrary, iconic, usually non-intrinsic	iconic, intrinsic	arbitrary, iconic, intrinsic	intrinsic, sometimes iconic	intrinsic, tend to be iconic
origin	culture-specific	socially learned	learned	neuro-physiologically programmed	habitual

Factors for the classification of non-verbal behavior (Ekman & Friesen 1969:94)

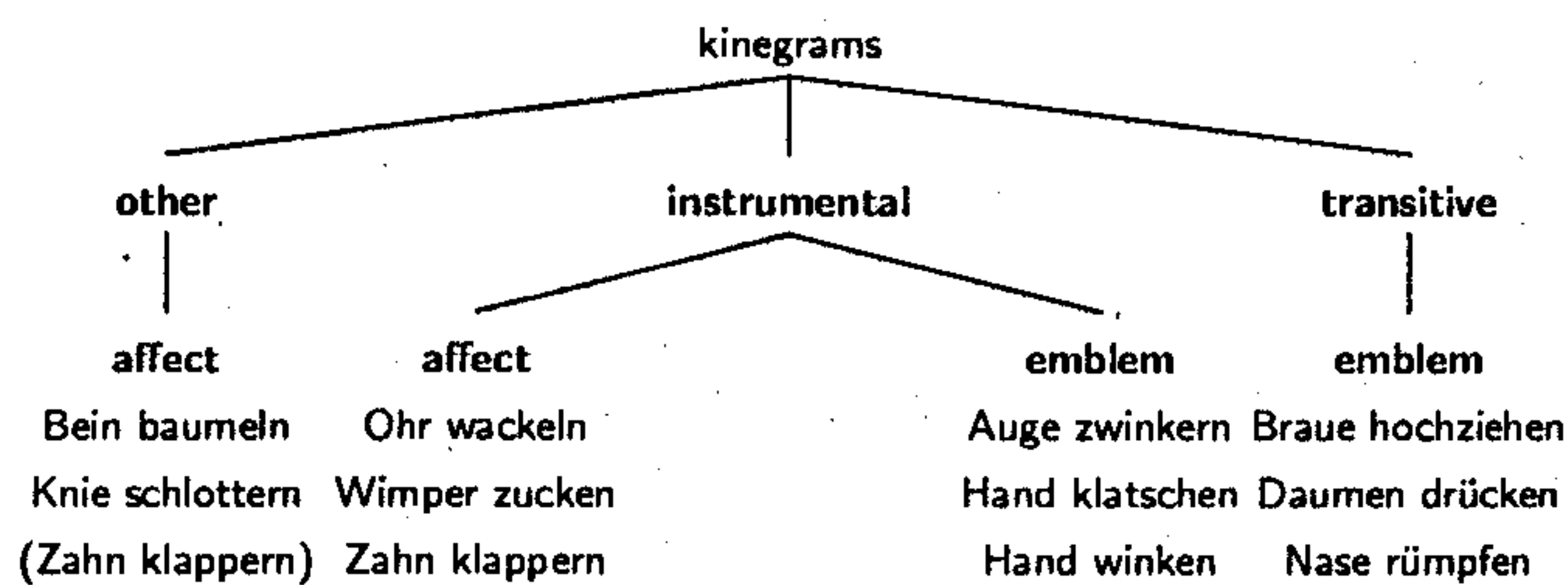


Non-verbal behavior covered by kinegrams

	emblems	illustrators	regulators	affect disp.	adaptors
awareness	usually aware	reduced awareness	peripheral awareness	often highly aware, but sometimes not	typically not aware
intent	usually intentional	reduced intent	almost involuntary	often unintentional, but sometimes intentional	rarely intentional
coding	arbitrary, iconic, usually also intrinsic	iconic, intrinsic	arbitrary, iconic, intrinsic	intrinsic, sometimes iconic	intrinsic, tend to be iconic
origin	culture specific	socially learned	learned	neuro-physiologically programmed	habitual

Factors for the classification of non-verbal behavior (Ekman & Friesen 1969:94)

Mapping to the linguistic forms



A semiotic look at the emblems I

- ▶ *mit den Augen zwinkern* (blink one's eyes) ⇒ meta-linguistic signal of irony, invitation for contact, etc.
- ▶ *die Hände klatschen* (clap one's hands) ⇒ signal of approval or joy
- ▶ *mit der Hand winken* (wave one's hand) ⇒ beckoning over, invitation, greeting
- ▶ *Braue hochziehen* (raise one's eyebrow) ⇒ display of astonishment or disdain
- ▶ *Daumen drücken* (press one's thumbs) ⇒ a wish of luck
- ▶ *Nase rümpfen* (wrinkle one's nose) ⇒ expression of disgust, disdain, scepticism, etc.

A semiotic look at the emblems II

- ▶ The gestures expressed by these idioms are all emblematic in that they are:
  - ▶ culture-specific
  - ▶ arbitrary/iconic
  - ▶ only performed intentionally
- ▶ Furthermore, the expressions can all be used to refer to events which only instantiate the emblematic meaning without the actual physical movement.
- ▶ That is completely impossible for the kinegrams which encode affect displays.

Linguistic background

- ▶ Accusatives are assumed to have an **agentive/intentional** argument (the subject).
- ▶ Certain intransitives also have one such agentive/intentional argument: **unergatives**.
- ▶ ex. *Kim talks/runs*.
- ▶ Other intransitives lack such an argument: **unaccusatives**.
- ▶ ex. *Kim snores/dies*.

The 'other' class: affect display I

- ▶ The base verbs in this class of constructions are all **pure unaccusatives**.
- ▶ The experiencer dative construction is typical of unaccusatives (Wegener 1990):
 

(5) *Mir schlottern die Knie.*  
 me shake the knees  
 My knees are shaking.

The 'other' class: affect display II

- ▶ The relinquative construction also requires an unaccusative:
 

(6) *Ich lasse die Beine baumeln.*  
 I let the legs dangle  
 I allow my legs to dangle freely.
- ▶ The linguistic generalization that these verbs conceptually lack an intentional agent goes well with the fact that these constructions never encode emblematic gestures.

The accusative (transitive) class: emblem

- ▶ All true transitives conceptually require an intentional agent.
- ▶ It is thus expected that the kinegrams with an accusative object only encode emblems.



## The instrumental class I: affect display

- ▶ *mit den Ohren wackeln* ('with the ears jiggle')
- ▶ *mit der Wimper zucken* ('with the eyelash twitch')
- ▶ *mit den Zähnen klappern* ('with the teeth chatter')
- ▶ The occurring base verbs (*wackeln*, *zucken*, *klappern*) are all **unaccusatives**.
- ▶ They undergo a grammatical operation by which the unaccusative subject is demoted to an instrumental PP, and a non-agentive experiencer subject is added.
- ▶ Similar promotions/demotions have been reported (e.g., Fillmore 1968, Haiden 2005).
- ▶ It is hard to determine why the instrumental option is chosen and not the experiencer dative construction. There appears to be some alternation, too.

## The instrumental class I: intentional affect display?

- ▶ Ekman & Friesen 1969: Affect display can be marginally intentional.
- ▶ *Mir schlottern die Knie.*  
(construction with unaccusative verb and experiencer dative)  
**Does not allow an intentional reading.**
- ▶ *Ich schlottere mit den Knien.*  
(construction with unergative verb with an instrumental)  
**Does allow an intentional reading.**

## The instrumental class II: emblems

- ▶ *mit den Augen zwinkern* ('with the eyes blink')
- ▶ *mit den Händen klatschen* ('with the hands clap')
- ▶ *mit der Hand winken* ('with the hand wave')
- ▶ The base verbs are all **unergatives**.
- ▶ The instrumental PP in most cases only **explicates an inherent instrument** (Schröder 1987), which is never the case in the instrumental class I (*rollen*, *wackeln*, ...).
- ▶ The mapping of grammatical form (verb with intentional agent) to the emblem class thus remains intact.

## The list of noun-verb constructions in the instrumental II construction from our study

*Auge zwinkern* ('eye blink')  
*Fuß scharren* ('foot paw')  
*Hand winken* ('hand wave')  
*Auge zwinkern* ('eye blink')  
*Kopf nicken* ('head nod')  
*Zunge schnalzen* ('tongue click')  
*Hand klatschen* ('hand clap')

## Generalization

- ▶ The kinegram constructions using **relinquative** and **experiencer dative** corresponds uniquely to expressions of **affect display**.
- ▶ The **accusative/transitive** construction corresponds uniquely to expressions of **emblems/gestures**.
- ▶ The **instrumental construction** corresponds to expressions of **affect display if the base verb is unaccusative** (because unaccusative predicates **obligatorily lack an intentional agent**) ...
- ▶ and to expressions of **emblems/gestures if the base verb is unergative**.

Explanation of the alternation of *Schulter zucken*

- ▶ *Achsel zucken* ('shrug (with) the armpit')
- ▶ *Schulter zucken* ('shrug (with) the shoulder')
- ▶ Synchronically, *zucken* is **intransitive** (probably with an unergative and an unaccusative variant).
- ▶ However, *zucken* was **historically a transitive verb** (Grimm 2004:32/289).
- ▶ Probably supported by the existing compounds (*Schulterzucken* etc.) which are interpreted as synthetic compounds, the transitive variant survives in the idiom.
- ▶ Both variants are expressions encoding emblems/gestures.

Explanation of the alternation of *Augen rollen*

- ▶ *Auge rollen* ('roll (with) the eye')
- ▶ As a base verb, *rollen* has a transitive and an intransitive **unaccusative** variant.
- ▶ The kinegram is strongly **emblematic**, which is unexpected.
- ▶ The only reasonable explanation would be that in the kinegram, *rollen* is **re-interpreted as an unergative**.
- ▶ The frequent modification with adverbs requiring an intentional agent supports this (COSMAS II):  
 (7) ... dann rollen sie **ungläubig** die Augen.  
 ... then roll they unbelievably the eyes  
 ... then they roll their eyes in disbelief.  
 (N99/DEZ.54278)

## Corroborating evidence

- ▶ In further studies, we will concentrate on corroborating linguistic evidence for the analysis.
- ▶ We are looking for contextual clues which clearly prove that a kinegram is read as an expression of affect display or an emblem.
- ▶ Some evidence from **adverbs** which can only modify expressions containing an intentional agent, which frequently occur with the emblematic kinegrams only:
- ▶ E.g., in the DWDS corpus (<http://www.dwds.de>), (*mit*) *den Augen zwinkern* co-occurs with *vertraulich* ('confidentially'), *listig* ('in a sly manner'), *vielsagend* ('in a meaningful way') with a statistically significant frequency.
- ▶ The emblematic kinegrams also frequently occur as speech

## stic observations

English, a special kind of kinegram construction exists, viz. one with an obligatory bound genitive.

- ▶ E.g., *shake one's head, wave one's hand, stamp one's feet, nod one's head, etc.*
- ▶ Further investigation might reveal whether this kinegrammatic construction is also reserved for expressions encoding a specific kind of non-verbal behavior.
- ▶ Typical negative transfer effect for German learners of English:  
*I wave my hand.*  
*Ich winke mit der Hand.*  
⇒ \* *I wave with the hand.*

## References I

- ▶ Abraham, W. & J. Maché (in prep.) Infinitive im Frühen Neuhochdeutschen – satzwertig oder nicht? Manuskript. <http://hpsg.fu-berlin.de/~mache/pubs.html>
- ▶ Burger, H. (1976) Die Achseln zucken - Zur sprachlichen Kodierung nicht-sprachlicher Kommunikation. In: *Wirkendes Wort* 26 (311-339).
- ▶ Dobrovolskij, D. O. & E. Piirainen (2009). *Zur Theorie der Phraseologie*. Tübingen: Stauffenburg.
- ▶ Donalies, E. (2009). *Basiswissen Deutsche Phraseologie*. Tübingen: Francke.

## References II

- ▶ Ekman, P. & W. V. Friesen (1969). The Repertoire of nonverbal behaviour: categories, origins, usage and coding. In: *Semiotica* 1 (49-98).
- ▶ Fillmore, Ch. J. (1986). The Case for Case. In: Bach & Harms (ed.), *Universals in Linguistic Theory*. New York: Holt, Rinehart, and Winston (1-88).
- ▶ Fleischer, W. (1982). *Phraseologie der deutschen Gegenwartssprache*. Leipzig: Bibliographisches Institut.
- ▶ Grimm, J. & W. Grimm (2004). *Der digitale Grimm*. Frankfurt/Main: Zweitausendeins.
- ▶ Haiden, M. (2005) *Theta Theory*. Berlin: de Gruyter.

## References III

- ▶ Langlotz, A. (2006). *Idiomatic Creativity*. Amsterdam: Benjamins.
- ▶ Schröder, J. (1987) Instrumentalrelationen - ein Beschreibungsproblem. In: *Deutsch als Fremdsprache* 24 (75-80).
- ▶ Wegener, H. (1990) Der Dativ – ein struktureller Kasus?. In: Fanselow, G. & S.W. Felix. *Strukturen und Merkmale syntaktischer Kategorien*. Tübingen: Gunter Narr Verlag [70-103].