

A Multi-dimensional Semantic Analysis of the Literal and the Idiomatic Meaning of Kinegrams

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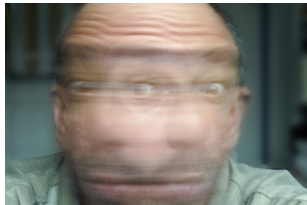
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December 8, 2016

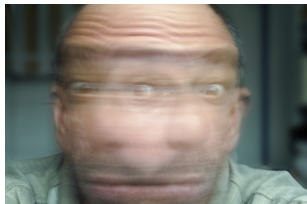
Overview

- 1 Introduction
- 2 Kinegrams as phraseological units
- 3 Syntactic and semantic flexibility of kinegrams
- 4 Existing approaches
- 5 Relation between the literal and the idiomatic meaning
- 6 Framework
- 7 Analysis
- 8 Summary and conclusion

Kinegrams



Kinegrams



den Kopf schütteln
'shake one's head'



die Hände geben
'shake hands'



die Nase rümpfen 'winkle one's nose'



sich die Haare raufen 'tear out one's hair'

Kinegrams

Definition (Burger, 1976):

- Nonverbal level: Nonverbal behavior that is conventionally associated with some meaning.

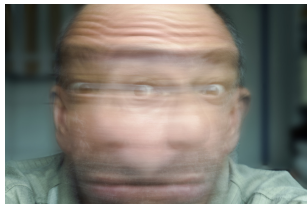
kinegram association

- Verbal level: The kinegram describes the nonverbal behavior (“literal meaning”) and expresses the conventionally associated meaning of this behavior (“idiomatic meaning”).
- The kinegram can be used truthfully even if the corresponding nonverbal behavior is not performed.

Kinegrams

- Kinegrams often involve body parts.

(1) den Kopf schütteln 'shake one's head'



- But: kinegram association is essential!
- *Somatism*: expression that contains body parts, with or without kinegram association

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Phraseological units

Prototypical category, (Fleischer, 1997; Burger, 2015):

- polylexicality
- fixedness: lexical material, structural idiosyncrasy
- idiomaticity: literal and idiomatic meaning
- lexicalization: perceived as a unit

Baldwin & Kim (2010): Idiosyncrasy at any level (lexicon, syntax, semantics, pragmatics, usage)

Lexical fixedness: Fixed word choice

The choice of words is essential for the kinegram association.

- (2)
- a. Sie schüttelten die Hände.
they shook the hands
'They were shaking hands.'
 - b. #Sie hielten die Hände und schwenkten sie hoch und runter.
'They were holding hands and waving them up and down.'

Lexical fixedness: Unique components

Sometimes unique components:

- (3)
- a. jm die Hammelbeine langziehen
s.o.DAT the wether.legs long.tear
'give s.o. a good telling off'
 - b. die Nase rümpfen
the nose wrinkle
'wrinkle one's nose'

Syntactic idiosyncrasy

Maché & Schäfer (2010): Archaic argument frame: *zucken* is not transitive, but used to be:

- (4)
- a. mit der Achsel/ die Achsel zucken
with the armpit/ the armpit shrug
'express indifference'
 - b. mit der Schulter/ die Schulter zucken
with the shoulder/ the shoulder shrug
'express indifference'

Literal kinograms are also phraseological units

Lexical fixedness even without idiomatic meaning (collocations):

- (5)
- a. jn auf die Nase stupsen
s.o.ACC on the nose nudge
'nudge s.o. on their nose', 'give s.o. a bob on their nose'
 - b. ??jn auf die Stirn stupsen
s.o.ACC on the front nudge
 - c. jm auf die Nase tippen
s.o.DAT on the nose tap

Lexical gaps

Not all conventionalized gestures have a corresponding kinegram:



Kinegrams are phraseological units

- fixedness
- idiomaticity (description of behavior vs. associated meaning)

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Decomposability

An idiom is decomposable if and only if an idiomatic reading of parts of the idiom is accessible for some semantic operation (Nunberg et al., 1994).
For example: *internal modification* (Ernst, 1981)

- (6) spill the beans 'keep a secret'
Alex spilled the well-kept beans. (decomposable)
- (7) kick the bucket 'die'/'stop living'
Alex kicked the fatal/ peaceful/ long/ ... bucket.
(non-decomposable)

Kinegrams and decomposability

- (8)
- a. in die Knie gehen
in the knees go
'be defeated/ admit one's defeat'
 - b. #Alex ging in die schmachvollen Knie.
'Alex admitted his shameful defeat'

Kinegrams are usually non-decomposable: Idiomatic reading is associated with the entire behavior and cannot be distributed over the verb and the body part.

Decomposable (Ziem & Staffeldt, 2011):

- (9)
- a. jm. auf die Finger schauen
s.o.DAT on the fingers look
'keep an eye on s.o.'s activities'
 - b. Reedereien auf die grünen Finger geschaut
shipping.companies on the green fingers looked
'keeping an eye on the "green" (environmental) activities of shipping companies' (www)

Syntactic flexibility: Passive

German passive: demotes an active subject

(Contrast: English passive: promotes an active object (Kuno & Takami, 2004))

German passive is not very restricted (Müller, 2013): Non-decomposable idioms allow for passive (Bargmann & Sailer, 2015).

- (10) a. kick the bucket: *The bucket was kicked.
 b. jm den Garaus machen (lit.: make the *Garaus* to s.o., 'kill')
 den lästigen Hausgenossen soll nun ... der
 the.DAT annoying housemates should now ... the.NOM
 Garaus gemacht werden
 Garaus made be
 'The annoying housemates should now be killed.'

Syntactic flexibility: Passive

Kinegrams usually passivize

No literal meaning possible:

- (11) Überall im Land werden die Ohren gespitzt
everywhere in.the country are the ears pricked
'Everywhere in the country, people start to listen carefully.' (www)

Literal meaning possible, but not plausible:

- (12) Den Verlassenen wurde die Hand gereicht.
the abandoned.people was the hand offered
'Help/Reconciliation was offered to the abandoned people.' (www)

Syntactic flexibility: Vorfeld/fronting

German allows *pars-pro-toto* focus: Fronting of part of a constituent/ an idiom to focus on the entire unit. (Fanselow, 2004)

- (13)
- a. am Hungertuch nagen
at.the hunger.cloth gnaw
'suffer from hunger'
 - b. Am Hungertuch habe er genagt, ...
at.the hunger.cloth has he gnawed
'He was suffering from hunger, ...' (www)

Syntactic flexibility: Vorfeld/fronting

Less obvious with kinegrams:

- No google hits for fronting of *Lauscherchen* 'little ears' or *Hände* 'hands' from *die Lauscherchen spitzen* 'prick one's ears' and *die Hände reichen* 'shake hands'.
- Only: in etiquette manual: (execute literal behavior to achieve the idiomatic meaning)

(14) Die Hände werden gereicht, nicht "geschüttelt".
the.NOM hands are offered not shaken
'One offers one's hands and does not shake them.' (www)

Syntactic flexibility: Vorfeld/fronting

- In all examples with the body part expression in the Vorfeld, the literal meaning was also present, i.e., there was a literal hand involved.
- More and systematically collected data necessary

Modification (Ernst, 1981)

- (15) The project bore satisfying fruit. (internal)
- a. literal: —
 - b. idiomatic: The project gave satisfying results.
- (16) When all our circuits blew out, the GE technician came over and lent us an electronic helping hand. (external)
- a. literal: —
 - b. idiomatic: ...the GE technician helped us in the electronic domain
- (17) The \$6,000,000 man came over and lent us an electronic helping hand. (conjunction)
- a. literal: The \$6,000,000 man has an electronic hand.
 - b. idiomatic: The \$6,000,000 man helped us.

Modification

- internal modification is a test for decomposability
- external modification is attested with both decomposable and non-decomposable idioms
- conjunction modification is rare with idioms except for body-part phraseologisms, where it is very common.
(examples in Ernst (1981) are exclusively with body part expressions—including clothing)

Kinegrams as a special class of phraseologism

- usually non-decomposable
- transparent, if one is familiar with the conventional interpretation of the literally described behavior
- passivize easily, but Vorfeld-movement restricted
- conjunction modification is common

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Existing approaches: Overview

- Compositional semantics: Relation between literal and idiomatic reading often neglected.
- Burger (1976): Identifies kinegrams as phenomenon, but provides no analysis.
- Nunberg et al. (1994): General comment on the prototypicality of the literal meaning of idioms
- Mapping approaches (Pulman, 1993; Egan, 2008)
- Metonymy-based approach (Ziem & Staffeldt, 2011)
- Formal semantics (Bauer & Beck, 2014; Hoeksema & Sailer, 2012)
- Conventional implicature (Hoeksema & Sailer, 2012)

Inference-based theory of idioms (Pulman, 1993)

- A literal meaning representation is built up. The idiomatic reading can then be inferred by a special type of inference rule.
- Non-standard inference
- (Predicts that idiomatic reading is arrived at slower than literal reading)
- Kinegrams: As the literal behavior is executable and often performed, no need for the inference.

Pretense theory (Egan, 2008)

- “Pretend” to say one thing (the literal), but really say something else (the idiomatic)
 - Mapping between literal and idiomatic reading is a standard process of figurative interpretation
 - Attractive for emerging idioms or productive language,
 - Powerful in “extended uses” of phraseologisms
 - Kinegrams (not mentioned): Maybe the most direct instance of pretense.
-
- General criticism: Wearing (2012)
 - Unclear whether applicable to highly conventionalized combinations.
 - Kinegrams: We typically achieve the idiomatic reading by showing the literal behavior.

Cognitive linguistics (Ziem & Staffeldt, 2011)

- Conceptual metonymy on the body part expression as basis
- Focus on one example, which is a decomposable somatism.

(18) jm. auf die Finger schauen
 s.o.DAT on the fingers look
 'keep an eye on someone's activities'

- Explore the larger context (purpose of watching s.o.) to identify submeanings
- Did not find literal uses of the expression
- Do not address the phenomenon of co-existing literal and idiomatic meaning components.

Literal and fictional reading in formal semantics (Bauer & Beck, 2014)

- Formal semantic approach, based on possible-world semantics
- Concerned with the meaning of texts, not just VPs/phrases
- A text is literally asserted iff the speaker commits to the truth of the text in the actual world.

A text is fictionally asserted iff the speaker commits to the existence a possible world that is accessible from the actual world in which the text is true.

Accessibility relation corresponds to fictional interpretation of the text.

- No proposal on how to have both literal and idiomatic meaning at the same time.
- Kinegrams: The co-existence of literal and idiomatic reading components might be difficult to capture.

Conventional implicature (Hoeksema & Sailer, 2012)

- Expressions with fictional placenames

(19) aus Dummsdorf sein
 from Stupid.village hail
 'be very stupid'

- Conventional implicature between the literal and the idiomatic reading.
- But: only idiomatic reading in their type of phraseologism
- No formal, combinatorial analysis.

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Meaning components of kinegrams

- literal meaning of the overall expression
- literal meaning of parts of the overall expression
- idiomatic meaning of the overall expression
- Since non-decomposable, NOT: idiomatic meaning of parts of the overall expression
- the kinegram association

Adverbial modifiers

- (20) (Burger, 2007, p. 101)
- a. Er schüttelte kaum merklich den Kopf.
'He shook the head hardly noticeably.'
 - b. Er schüttelte verneinend den Kopf.
'He shook his head negating.'

Contrary to Burger: The literal meaning is modified in both cases:
Adverb is sufficient for behavior with no kinematic association:

- (21) Er wackelte verneinend mit dem Fuß
'He wobbled with his foot to negate.'

Types of meaning in formal semantics and pragmatics

Grice (1975), Karttunen & Peters (1979), Potts (2005), Tonhauser et al. (2013)

- Asserted/entailed content (\models): what is actually being claimed.
- Presupposed content (\triangleright): assumptions that need to be fulfilled for the asserted content to be interpretable
- Conventional implicature (\mapsto): additional information conveyed, usually as side remarks
- Conversational implicature (\rightsquigarrow): additional inferences that are drawn based on the context and on what is being said.

Types of meaning in formal semantics and pragmatics

- (22) A: Did you buy everything you needed?
B: Chris, the idiot, took my car again, but I managed to carry everything home.
- a. \models : Chris took B's car and B carried everything home.
 - b. \triangleright : B has a car.
 - c. \mapsto : It took B some effort to carry everything home. B is angry with Chris. Chris taking B's car is usually not compatible with B getting things home.
 - d. \rightsquigarrow : B got everything s/he needed. B would have liked to go shopping by car.

Asserted content

- Speaker commits to the truth of the asserted content.
- Can be rejected with *No, this is not true.*
- Is no longer asserted, if the sentence is negated or questioned.
- Is not asserted if the sentence is embedded in a belief context.

- (23)
- a. B: Chris took my car. # In fact, Robin took it.
 - b. B: Chris took my car.
A: No, that's not true, Robin took your car.
 - c. B: Chris didn't take my car.
B: Did Chris take my car?
 - d. B: Robin thinks that Chris took my car.

Presupposed content

- Speaker commits to the truth of the presupposition.
- Cannot be rejected with *No, this is not true*.
- Can but need not be valid if sentence is negated or questioned.
- Usually not valid if the sentence is embedded in a belief context.

- (24)
- a. B: Chris took my car. ▷ B has a car.
 - b. B: Chris took my car.
A: ??No, that's not true you don't have a car.
 - c. B: Did Chris take my car? ▷ B has a car.
B: Chris didn't take my car, because I have no car.
 - d. B: Robin thinks that Chris took my car, but I don't have a car, so Chris must have taken someone else's car.

Conventional implicatures (CI)

- Speaker commits to the truth of the CI.
- Cannot be rejected with *No, this is not true*.
- Valid if sentence is negated or questioned.
- Valid if the sentence is embedded in a belief context.

- (25)
- a. B: Chris, the idiot, took my car \mapsto B thinks C is an idiot.
 - b. B: Chris, the idiot, took my car.
A: # No, that's not true, Chris is really clever.
 - c. B: Chris, the idiot, didn't take my car.
 \mapsto B thinks C is an idiot.
B: Did Chris, the idiot, take my car? \mapsto B thinks C is an idiot.
 - d. B: Robin thinks that Chris, the idiot, took my car.
 \mapsto B thinks C is an idiot.

Conversational implicatures

- Speaker suggests the truth of the conventional implicature, but does not strongly commit to it.
- Cannot be rejected with *No, this is not true*.
- Not valid if sentence is negated or questioned.
- Not valid if the sentence is embedded in a belief context.

- (26) A: Did you buy everything you needed?
- a. B: I didn't have my car. \rightsquigarrow B could not go shopping
 - b. B: I didn't have my car, but Robin drove me to the supermarket, so I could do the shopping.
 - c. B: I had my car.
 - d. B: Robin thinks that I didn't have my car.

The status of the meaning components of kinegrams

- idiomatic meaning (asserted)
- parts of the literal meaning (presupposed)
- kinegram association (conventional implicature)

Idiomatic meaning: speaker commitment

Speaker commitment to the idiomatic meaning:

Literal reading not available:

- (27) Alex hat die Ohren gespitzt.
Alex has the ears pricked
Tatsächlich hat sie gar nicht zugehört.
In fact has she not at all listened

Literal meaning available:

- (28) Alex hat Chris die Hand gegeben.
Alex has Chris the hand given.
Sie hat ihn aber nicht begrüßt.
She has him but not greeted
'Alex gave Chris the hand. But she didn't greet him.'

“#” if the idiomatic reading is assumed for the first sentence.

Idiomatic meaning: Negation/question

- (29)
- a. Hat Alex die Ohren gespitzt? Alex listened
has Alex the ears pricked
 - b. Alex hat Chris nicht die Hand gegeben. Alex greeted Chris.
Alex has Chris not the hand given

The idiomatic meaning does not follow under negation or in question.
Ergo, the idiomatic meaning is asserted!

Kinegram association: speaker commitment

- (30) Alex hat die Ohren gespitzt, #aber wer die Ohren spitzt, hört ja nicht unbedingt zu.
'Alex pricked her ears. But who pricks their ears, doesn't necessarily listen.'
- (31) Alex hat Chris die Hand gegeben, #aber die Hand geben und jemanden grüßen sind ja zweierlei Dinge.
'Alex and Chris shook hands, but shaking hands and greeting are, of course, different things.'

Using the idiomatic meaning, the speaker commits to the kinegram association.

Kinegram association: Negation/question

- (32) a. Hat Alex die Ohren gespitzt?
 'Did Alex prick her ears?'
- b. Alex hat Chris nicht die Hand gegeben.
 'Alex didn't shake Chris' hand.'

Using the idiomatic meaning, the speaker accepts the kinegram association independently of whether or not there is a negation or a question.

Kinegram association: Belief contexts

- (33)
- a. Robin glaubt, dass Alex die Ohren gespitzt hat.
'Robin thinks that Alex pricked her ears.'
 - b. Robin glaubt, dass Alex Chris die Hand gegeben hat.
'Robin thinks that Alex shook Chris' hand.'

Using the idiomatic meaning, the speaker accepts the conventional association independently of whether or not the kinegram is used in a belief context

Ergo: The conventional association between the behavior and the idiomatic meaning is a conventional imarrivedplicature.

Partial literal meaning: speaker commitment

To see what type of meaning the partial literal meaning is, we need a sentence where we use the idiomatic meaning but see the literal meaning at the same time, i.e., a sentence with conjunction modification.

- (34) Alex hat die großen Ohren gespitzt.
Alex has the big ears pricked
a. idiomatic meaning: 'Alex pricked her ears.'
b. literal conjunct: '... and Alex has big ears'
- (35) Alex hat die großen Ohren gespitzt,
aber Alex hat ganz kleine Ohren.
'Alex pricked her big ears, but Alex has very small ears.'
- (36) Alex hat Chris die fettige Hand gegeben,
aber Alex Hand war ganz sauber.
'Alex gave Chris her greasy hand, but Alex' hand was very clean.'

The speaker commits to the truth of the literal conjunct.

Partial literal meaning: Negation/question

- (37) Hat Alex die großen Ohren gespitzt?
'Did Alex prick her big ears?'
- (38) Alex hat Chris nicht die fettige Hand gegeben.
'Alex didn't give Chris her greasy hand.'
- a. 'Alex didn't greet Chris'
 - b. '... and Alex has greasy hands.'

The speaker commits to the truth of the literal conjunct even if the idiomatic meaning is in the scope of negation or in a question.

Partial literal meaning: Belief contexts

- (39) Robin glaubt, dass Alex die großen Ohren gespitzt hat
— Dabei hat Alex eher kleine Ohren.
'Robin believes that Alex pricked her big ears
—But Alex has rather small ears.'
- (40) Robin glaubt, dass Alex Chris die fettige Hand gegeben hat.
— Dabei hat Alex immer saubere Hände. 'Robin believes that
Alex gave Chris her greasy hand
—But Alex' hands are always clean.'

Using the idiomatic meaning, the speaker need not commit to the literal conjunct.

Ergo: The literal conjunct is a presupposition.

Status of the literal conjunct surprising?

- Body parts have uniqueness CI: Whoever has a nose, has exactly one nose. (Löbner, 2011; Am-David, 2016)
- Existence presupposition of definite NPs: *the N'* presupposes that an entity with property *N'* exists.

- (41)
- a. Alex trägt den linken Arm in einer Schlinge.
Alex wears the left arm in a sling
'Alex is wearing her left arm in a sling.'
 - b. Trägt Alex den linken Arm in einer Schlinge?
'Is Alex wearing her left arm in a sling?'
 - c. Robin glaubt, dass Alex den linken Arm in einer Schlinge trägt, dabei hat Alex den linken Arm bei einem Unfall verloren.
'Robin believes that Alex is wearing her left arm in a sling, but, in reality, Alex has lost her left arm in an accident.'

Ergo: Body-part NP behaves fully like a literal combination!

Summary: Meaning components of kinegrams

- The idiomatic meaning is asserted.
- The kinegram association is a CI.
- The literal conjunct is a presupposition and behaves fully like in its literal reading.

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Framework

- Head-driven Phrase Structure Grammar (HPSG): Pollard & Sag (1994)
- Techniques of underspecified semantics: Bos (1996); Copestake et al. (2000); Egg (1998, 2010); Pinkal (1996); ...
- Lexical Resource Semantics (LRS): Richter & Sailer (2004)
- General idea: Words and phrases constrain the semantic representation of their utterance (specifying what must occur in the representation and where)
- Proposal for integration of multi-dimensional semantics:
 - ▶ Bonami & Godard (2007): CIs for evaluative adverbs
 - ▶ Hasegawa & Koenig (2011): Structured meaning for focus
 - ▶ Plan: Use a standard HPSG-mechanism of perlocation and retrieval for projective meaning

Lexical Resource Semantics: Basics

Semantic representations in LRS

- Lexical signs exhaustively contribute all meaning components of utterances
- Signs contribute constraints on the relationships between (pieces of) their semantic contributions
- Semantic constraints *denote* semantic representations

Our semantic metalanguage

Use some standard semantic representation language.

Embed this in a semantic metalanguage:

- ordinary expressions denote ordinary expressions
- metavariables: A, B, \dots denote arbitrary expressions
- for each metavariable A and each metalanguage expressions

ϕ_1, \dots, ϕ_n :

$A[\phi_1, \dots, \phi_n]$ is an expression that contains at least the interpretation of ϕ_1, \dots , and ϕ_n as subexpressions.

(42) A red car arrived. **Exist** $x((\text{red}(x) \& \text{car}(x)) \& \text{arrive}(x))$

- car: PARTS **car**(x)
- red: PARTS (**red**(x)& $A[x]$)
- a: PARTS **Exist** $x(\textcolor{blue}{B}[x] \& \textcolor{red}{C}[x])$
- arrived: PARTS **arrive**(x)

Semantic combinatorics

- In each phrase: The constraints of the daughters are collected.

(43) [N': red car]: PARTS $D[\text{car}(x), (\text{red}(x) \& A[x])]$

- In each phrase: additional constraints on embedding can be imposed.

(44) intersective Adj + Noun: meaning of Noun is in the second conjunct of the meaning of Adj, i.e. **car**(x) is in **A**.

Semantic combinatorics

- Utterance: The overall semantics of the utterance (EX(TERNAL-)CONT(ENT)) contains all and only the elements mentioned in the constraints of its constituents.

- (45) A red car arrived
PARTS $G[\text{car}(x), (\text{red}(x) \& A[x]), \text{Exist } x(\text{B}[x] \& \text{C}[x]), \text{arrive}(x)]$
- (46) $A = \text{car}(x)$ $B = (\text{red}(x) \& \text{car}(x))$
 $C = \text{arrive}(x)$ $G = \text{Exist } x(\dots \& \dots)$
- (47) EXCONT $\text{Exist } x(\underline{(\text{red}(x) \& \text{car}(x))} \& \underline{\text{arrive}(x)})$

Multi-dimensional semantics

- Regular semantic combinatorics (asserted content)
- Projective meaning (presuppositions, conventional implicatures):
percolates until it is integrated into the EXCONT.
- Discourse (conversational implicatures)



LRS Encoding of presuppositions and CIs

- Encoding closer to Potts (2005) than Bonami & Godard (2007), but allowing for intermediate retrieval of CIs.
- List-valued attributes `PRESUP(POSITION)` and `CI`.
- Elements of `PRESUP` and `CI` also occur on `PARTS`
- Percolation and retrieval for `PRESUP`:
`PRESUP` elements can but need not project out of negation, questions, and belief contexts.
- Percolation and retrieval for `CI`:
`CI` elements must project out of negation, questions, and belief contexts.

Example: *The pope arrived.*

(*pope* is a unique noun just as body parts of an individual, i.e., it has a uniqueness CI)

- (48) the: PARTS $A'[x, \boxed{1}, \boxed{1'}]$
PRESUP $\langle \boxed{1} \textbf{Exist } x(A[x]), \boxed{1'}(B[x] \& B'[x]) \rangle$ (existence)
- (49) pope: PARTS $C'[\textbf{pope}(x), \boxed{2}]$
CI $\langle \boxed{2} (C \& \textbf{Typically}(\textbf{Exist } x(\textbf{pope}(x) \rightarrow \textbf{Exist! } x(\textbf{pope}(x)))) \rangle$
(uniqueness)
- (50) the pope: PARTS $D[x, \textbf{pope}(x), \boxed{1}, \boxed{1'}, \boxed{2}]$
PRESUP $\langle \boxed{1}, \boxed{1'} \rangle$ (existence)
CI $\langle \boxed{2} \rangle$ (uniqueness)
Constraint: **pope**(x) is in A

Example: *The pope arrived.*

- (51) the pope: PARTS $D[x, \text{pope}(x), \boxed{1}, \boxed{1'}, \boxed{2}]$
PRESUP $\langle \boxed{1}, \boxed{1'} \rangle$ (existence)
CI $\langle \boxed{2} \rangle$ (uniqueness)
Constraint: **pope**(x) is in A
- (52) arrived: PARTS **arrive**(x)
- (53) the pope arrived: PARTS $E[\text{arrive}(x), x, \text{pope}(x), \boxed{1}, \boxed{1'}, \boxed{2}]$
PRESUP $\langle \rangle$ (presupposition retrieved)
CI $\langle \rangle$ (CI retrieved)
Constraint: **arrive**(x) is in B
EXCONT **Exist** $x(\text{pope}(x) \& \text{arrive}(x))$
 $\& (\text{Typically}(\text{Exist } x(\text{pope}(x))) \rightarrow (\text{Exist! } x(\text{pope}(x))))$

Special properties of LRS

LRS resource management:

- Several words may contribute the same constraints/ “bits” of semantic representation. Used in the analysis of negative concord and multiple wh-questions (Richter & Sailer, 2001, 2006)
- A contributed “bit” of semantic representation can be used several times. (Sailer, 2004)

(54) the pope arrived:

PARTS $E[\text{arrive}(x), x, \text{pope}(x), \boxed{1}, \boxed{1'}, \boxed{2}]$

EXCONT **Exist** $x(\text{pope}(x) \& \text{arrive}(x))$
 $\& (\text{Typically}(\text{Exist } x(\text{pope}(x))) \rightarrow (\text{Exist! } x(\text{pope}(x))))$

Framework: Summary

- Standard semantic representations
- Percolation mechanism for projective meaning:
 - ▶ parallel to Cooper store mechanism for quantifiers (Cooper, 1983)
 - ▶ distinct for presuppositions and CIs
- In between LF-theories (Heim & Kratzer, 1998; Potts, 2005; Liu, 2012) and Discourse Representation Theory (Kamp & Reyle, 1993; Kamp et al., 2005)
- Convenient for our data, but other mechanisms might work, too.

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General analysis of phraseological units

- Lexical analysis for all phraseologism with regular syntactic structure (Kay et al., ms.; Bargmann & Sailer, 2016)
- Ambiguity-based: idiom-specific lexical entries for *kick*, *bucket* for *kick the bucket*
- Co-occurrence of idiom parts handled by selection (Kay et al., ms.) or collocation mechanism (Soehn, 2006, 2009)
- Decomposable idioms (*spill the beans*): clearly distinguishable semantic contributions of the idiom parts.
- Non-decomposable idioms (*kick the bucket*): overlapping semantic contributions of the idiom parts.
- Syntactic flexibility follows from the internal semantic properties of an idiom and from the language-specific restrictions on the syntactic operation (Nunberg et al., 1994)

Analysis of kinegrams



- Verb (syntactic head):
 - ▶ contributes the idiomatic meaning
 - ▶ contributes kinegram association as a CI
 - ▶ ensures co-occurrence with particular body part lexeme
- Body part noun: ordinary lexical entry for unique noun
- Definite article: ordinary lexical entry

Kinegrams: Noun and article

(55) *die* 'the'

PARTS $A'[x, \boxed{1}]$

PRESUP $\langle \boxed{1} \text{ **Exist** } x(A[x]), \boxed{1'}(B[x] \& B'[x]) \rangle$ (existence of the N')

(56) *Ohren* 'ears'

PARTS $A[\text{ears-of}(x, y), \boxed{1}, \boxed{1'}, \boxed{2}]$

CI $\langle \boxed{2} \text{ **Typically(Forall } y(\text{Exist } x(\text{ears-of}(x, y) \rightarrow \text{Exist! } x(\text{ears-of}(x, y)))) \rangle**$ (uniqueness)

(57) *spitzen* 'prick' (idiomatic)

PARTS $D[\text{listen}(y), \boxed{3}]$

PRESUP $\langle \rangle$

CI $\langle \boxed{3} \text{ **Typically(Forall } y**$
 $((\text{Exist } x(\text{ears-of}(x, y) \& \text{prick}(y, x)) \Leftrightarrow \text{listen}(y)))) \rangle$
(kinegram association)

Alex spitzt die Ohren: VP

(58) die Ohren:

PARTS $C[\mathbf{ears-of}(x, y), x, \boxed{1}, \boxed{1'}, \boxed{2}]$

PRESUP $\langle \boxed{1}, \boxed{1'} \rangle$ (existence)

CI $\langle \boxed{2} \rangle$ (uniqueness)

(59) spitzt die Ohren:

PARTS $E[\mathbf{listen}(y), \mathbf{ears-of}(x, y), x, \boxed{1}, \boxed{1'}, \boxed{2}, \boxed{3}]$

PRESUP $\langle \boxed{1}, \boxed{1'} \rangle$

CI $\langle \boxed{2}, \boxed{3} \rangle$ (uniqueness, association)

Alex spitzt die Ohren

(60) Alex spitzt die Ohren

PARTS $F[\text{listen}(y), \text{ears-of}(x, y), x, \boxed{1}, \boxed{1'}, \boxed{2}, \boxed{3}, \text{alex}]$

PRESUP $\langle \rangle$

CI $\langle \rangle$

Possible readings (EXCONT values):

- Purely idiomatic: No claim that Alex has ears follows:

(61) $\text{listen}(\text{alex}) \wedge \boxed{3}(\text{kine.ass.}) \wedge \boxed{2}(\text{uniqueness})$

(possible because existence presupposition can be unified into the uniqueness CI)

- Partially literal reading: Existence presupposition appears as separate conjunct:

(62) $\text{listen}(\text{alex}) \wedge \text{Exist } x(\text{ears-of}(x, \text{alex})) \wedge \boxed{3} \wedge \boxed{2}$

Alex spitzt die großen Ohren

- (63) *großen* 'big'
PARTS $G[\mathbf{big}(x) \& G']$
PRESUP $\langle \rangle$
CI $\langle \rangle$
- (64) die großen Ohren:
PARTS $C'[\mathbf{ears-of}(x, y), x, \boxed{1}, \boxed{1'}, \boxed{2}, G[\mathbf{big}(x) \& G']]$
PRESUP $\langle \boxed{1}, \boxed{1'} \rangle$ (existence)
CI $\langle \boxed{2} \rangle$ (uniqueness)
- (65) spitzt die großen Ohren:
PARTS $E[\mathbf{listen}(y), \mathbf{ears-of}(x, y), x, \boxed{1}, \boxed{1'}, \boxed{2}, G[\mathbf{big}(x) \& G'], \boxed{3}]$
PRESUP $\langle \boxed{1}, \boxed{1'} \rangle$
CI $\langle \boxed{2}, \boxed{3} \rangle$ (uniqueness, kine.ass.)

Alex spitzt die großen Ohren

(66) Alex spitzt die großen Ohren:

PARTS

$E[\text{listen}(y), \text{ears-of}(x, y), x, \boxed{1}, \boxed{1'}, \boxed{2}, G[\text{big}(x) \& G'], \boxed{3}, \text{alex}]$

PRESUP $\langle \rangle$

CI $\langle \rangle$

Possible reading:

(67) $\text{listen}(\text{alex}) \wedge \text{Exist } x(\text{big}(x) \wedge \text{ears-of}(x, \text{alex})) \wedge \boxed{3} \wedge \boxed{2}$

- Conjunction reading! (the meaning of the adjective is integrated into the presupposition of *die großen Ohren* 'the big ears')
- Fully non-literal reading excluded because the uniqueness of *Ohren* 'ears' does not include modifier semantics!

Literal meaning

- There are conventionalized verbalizations of non-verbal behavior even without additional idiomatic meaning.
- Therefore, the literal use is also phraseological, imposing idiosyncratic lexeme selection.
- The literal meaning will also be equipped with the kinegram-CI!

(68) Er schüttelte [kaum merklich]/ verneinend den Kopf.
he shook hardly noticeably/ in negation the head
'He shook the head hardly noticeably/ negating' (Burger, 2007)

(69) *schütteln* 'shake' (literal for head-shaking)
PARTS $A[\text{shake}(x, y), \boxed{1}]$
PRESUP $\langle \rangle$
CI $\langle \boxed{1} \text{ 'Typically, } x \text{ shakes } x\text{'s head} \Leftrightarrow x \text{ opposes something}' \rangle$

Literal meaning

(70) Alex schüttelte [kaum merklich]/ verneinend den Kopf.

'Alex shook the head hardly noticeably/ negating'

Exist $x(\text{head-of}(x, \text{alex}) \& \text{negatingly}(\text{shake}(\text{alex}, x)))$
& ('Typically, x shakes x 's head $\Leftrightarrow x$ opposes something')

(71) ??Alex schüttelte zustimmend den Kopf.

'Alex shook the head in approval.'

Exist $x(\text{head-of}(x, \text{alex}) \& \text{in-approval}(\text{shake}(\text{alex}, x)))$
& ('Typically, x shakes x 's head $\Leftrightarrow x$ opposes something')

Decomposable kinegrams

- Analysis just as above, but with the nominal component having an independent idiomatic asserted meaning, though the same kind of presupposition and CI.

(72) jm. auf die Finger schauen
 s.o.DAT on the fingers look
 ‘keep an eye on s.o.’

- Ziem & Staffeldt (2011): Semantic structure: x watches carefully y 's actions, i.e., “someone's fingers” \approx “someone's activities”

(73) *Ohren* ‘ears’
 PARTS $A[\text{activities-of}(x, y), [1], [1'], [2]]$
 CI $\langle [2] \text{ Typically}(\text{Forall } y(\text{Exist } x(\text{fingers-of}(x, y) \rightarrow \text{Exist! } x(\text{fingers-of}(x, y)))))) \rangle$ (uniqueness)

(We could include a relation for metonymic shift **M-Shift(fingers)** to mimic the insight of Ziem & Staffeldt (2011).)

Analysis: Summary

- Body part NP is treated just as in the literal reading.
- In the fully idiomatic reading, the existence presupposition is “swallowed” inside the uniqueness implicature.
- In the partially literal reading, the existence presupposition is added separately
- Conjunction modification is possible with the partially literal reading!

Predictions

- Passive
 - ▶ German passive is the demotion of a subject.
 - ▶ Predict availability of passives.
- Vorfeld/fronting
 - ▶ Vorfeld constituent
 - ▶ For nominal parts of non-decomposable idioms (Bargmann & Sailer, 2016): Vorfeld possible in contrastive reading, their meaning is part of that of the idiom.
 - ▶ Kinegrams: Asserted content of the body part is not part of the idiomatic meaning. Therefore, Fronting only possible if contrast is on the literal reading of the body part.
- Analysis captures attested readings and attested syntactic flexibility, including contrast with other idiom classes.

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Summary

- Applying methods of formal semantics and pragmatics to determine the relation between literal and idiomatic reading in kinegrams
- Analysis based on multi-dimensional semantics.
- Lexical analysis: Each word makes an important contribution to the explanation of the expression's behavior.
- Lexical ambiguity with CI connecting the literal and the idiomatic reading rather than a “mapping”

Open questions

- To which types of idioms can we extend this analysis?
- General problem: Uniqueness CI with multiply occurring body parts (*arms, fingers, ...*)

Thank you for your attention



Special thanks to Assif Am-David, Sascha Bargmann, Maria Paunell, and Suzanne Smith

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