

# Beyond lexical explanations of argument structure semantics

Re-appraising the role of alternations in construction grammar

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- Overview
  - Field of research: argument structure constructions
  - Corpus-based pilot study: the *at*-construction
  - Theoretical implications
  - Suggestion: the role of the conative alternation
  - Conclusion and prospects

# Field of research

- Verbs have several argument structures

*Bill kicked the ball.*

(transitive)

*Bill kicked at the ball.*

(conative)

*Bill kicked Bo the ball.*

(ditransitive)

*Bill kicked the ball to Bo.*

(to-dative)

*Bill kicked the ball off the field.*

(caused-motion)

*Bill kicked the man unconscious.*

(resultative)

- Different kind of events
- How to account for this variation?

# Field of research

- The constructional approach
  - Argument structures = meaningful constructions
    - Meaning: event structure
    - Form: syntactic structure
  - Verbal information reduced to a minimum
    - Core verbal meaning
    - Set of verb-specific participant roles
  - Clause = integration of constructional bottom-up information and verbal top-down information

# Field of research

- Example: the ditransitive construction  
(Goldberg 1995)
  - Syntactic pattern: Subject-V-Object1-Object2  
e.g., *Mary gave her sister a penny.*  
*Sam kicked Peter the ball.*
  - Constructional meaning:  
'Agent CAUSE Recipient TO HAVE Theme'

Syntax:      Subject<sub>Agent</sub>    V      Object1<sub>Recipient</sub>                      Object2<sub>Theme</sub>

Semantics: Agent    CAUSE    Recipient    TO HAVE    Theme

# Field of research

- Constructional meaning can be polysemic
  - A central meaning + extensions
  - Example: the ditransitive construction (Goldberg 1995)



# Field of research

- The source of constructional meaning
  - The lexical abstraction hypothesis (LAH)  
“grammatical constructions may arise developmentally as generalizations over lexical items in particular patterns” (Goldberg 2006:92)
  - Constructional meaning = abstraction over the meaning of verbs occurring in a syntactic pattern
  - Supported by:
    - Experiments (Goldberg et al 2004)
    - Corpus studies (idem, Stefanowitsch & Gries 2003)

# Field of research

- Consequence of the LAH
  - Verbal distribution in usage is a predictor of constructional meaning
  - Importance of 'basic purpose verbs'
    - Distributional bias => identified as prototype
    - Corresponds to the central meaning

Construction	Syntax	Central meaning	Most frequent verb
Ditransitive	Subj <sub>X</sub> -V-Obj1 <sub>Y</sub> -Obj2 <sub>Z</sub>	X CAUSE Y TO HAVE Z	<i>give</i> (50%)
Caused-motion	Subj <sub>X</sub> -V-Obj <sub>Y</sub> -Obl <sub>Z</sub>	X CAUSE Y TO GO Z	<i>put</i> (24%)
Intransitive motion	Subj <sub>X</sub> -V-Obl <sub>Y</sub>	X GO Y	<i>go</i> (32%)
Resultative	Subj <sub>X</sub> -V-Obj <sub>Y</sub> -Obl <sub>Z</sub>	X CAUSE Y TO BECOME Z	<i>make</i> (40%)
Intransitive resultative	Subj <sub>X</sub> -V-Obl <sub>Y</sub>	X BECOME Y	<i>become</i> (38%)

(source: ICE-GB spoken)

# Field of research

- Outline of my project:
  - Closer investigation of the relation between constructional meaning, lexical meaning and usage
  - Starting goal: enlarge empirical coverage of ASCs
  - Pilot study on the *at*-construction
    - Does not fully corroborate the LAH
  - Focus on the conative construction
    - Investigation of another factor plausibly influencing constructional meaning => alternations

# Pilot study: the *at*-construction

- Pilot study: the *at*-construction
  - An argument of a two-participant verb is realized as a PP headed by *at*

“NP V *at* NP”
  - Usage-based perspective
    - Study of verbal distribution of the construction in corpora
    - Collexeme analysis: account of statistical significance

“strong collexemes of a construction provide a good indicator of its meaning” (Stefanowitsch & Gries 2003:227)
    - What does the LAH predict?

# Pilot study: the *at*-construction

- The various uses of the *at*-construction
  - Visual perception of *at*-object: *look, stare, glance, ...*
  - Action oriented towards *at*-object
    - sound emission: *shout, yell, bark, whine*
    - facial expressions: *smile, grin, wince*
    - reaction to a stimulus: *grunt, moan, laugh*
  - Conative use: non-effective action

*John kicked at the ball*

*Mary wiped at the counter*

*Bill shot at the sheriff*

(vs. *John kicked the ball*)

(vs. *Mary wiped the counter*)

(vs. *Bill shot the sheriff*)

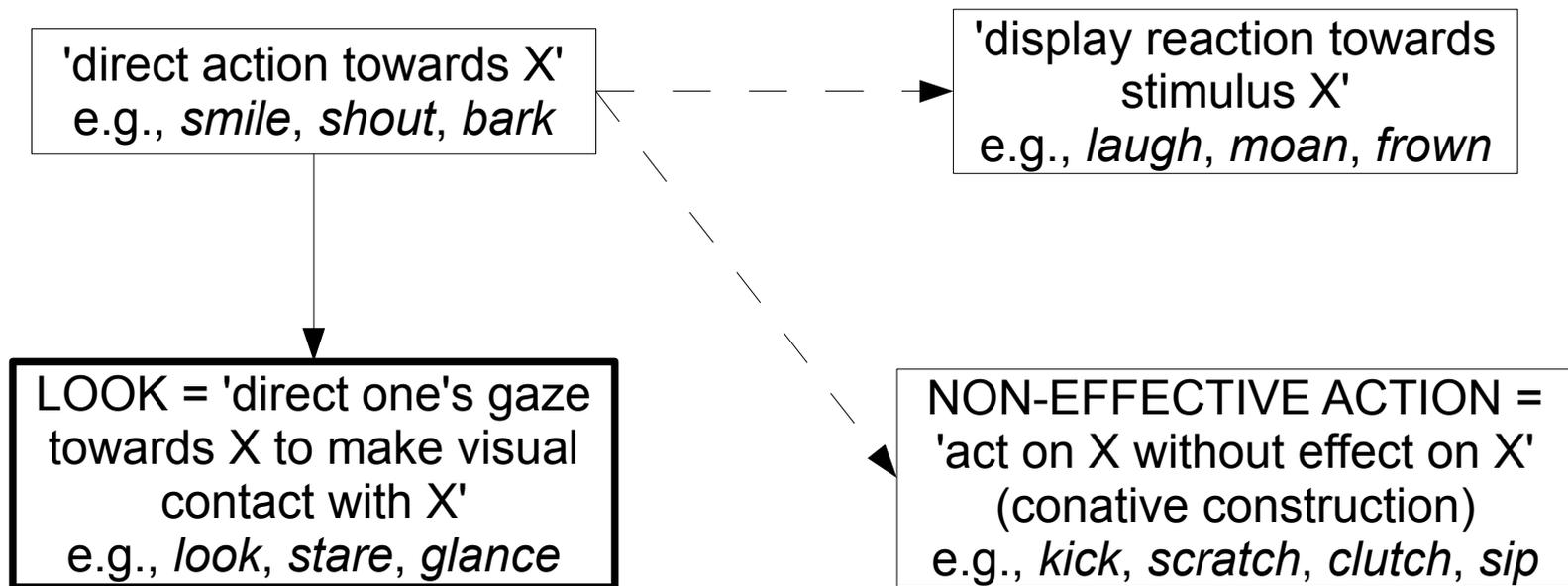
# Pilot study: the *at*-construction

- The *at*-construction in use



# Pilot study: the *at*-construction

- Suggested polysemy network (cf. Perek and Lemmens, to appear)



# Theoretical implications

- A different network topology
  - The central meaning is unclear
    - Following the distribution, it should be 'look' (huge bias!)
    - But the meaning of 'visual perception' does not straightforwardly carry over to the other uses
  - A more abstract meaning is needed
    - => “directed action”
    - Less frequent but more productive



- Extensions more likely drawn from this abstraction

# Theoretical implications

- Observations:
  - The study shows that the *at*-construction does not clearly support the LAH
  - It does however not disprove the view that lexical semantics is the 'fabric' of constructional meaning
  - But lexical abstraction is not the whole story
    - Probably the starting point
    - Other factors are yet to be identified and investigated

# Theoretical implications

- A case in point: the conative uses
  - e.g., *I kicked at the ball*
  - No plausible lexical origin of its own
    - No verb lexicalizes the meaning 'non-effective action'
    - Few instances in the input anyway
    - Token/types: 6/5 in Manchester, 31/17 in BNC-conv
  - Still: a productive generalization, supports the idea of a constructional meaning
  - Where does the conative meaning come from?
    - Suggestion: the alternation with the transitive plays a role
    - Begs the question of the mental representation of alternations

# The role of the conative alternation

- Alternations in construction grammar
  - “pairs of sentences with the same verb, related by paraphrase or subsumption” (Levin & Rappaport 2005)
  - e.g., the dative alternation:  
*I gave Mary a book vs. I gave a book to Mary*
  - The surface generalizations hypothesis (Goldberg 2002)
    - “generalizations surrounding particular surface forms [...] are more broad than those captured by derivations or alternations” (p. 327)
    - Alternations are NOT part of the grammar
    - They supposedly have no influence on generalizations

# The role of the conative alternation

- The conative construction stands out with the alternation behavior of its verbs
  - Directed-action construction: intransitive verbs
    - I looked at him vs. \*I looked him vs. ?I looked*
    - I smiled at him vs. \*I smiled him vs. I smiled*
    - I shouted at him vs. \*I shouted him vs. I shouted*
  - Conative construction: transitive verbs
    - I clutched at it vs. I clutched it vs. \*I clutched*
    - I tugged at it vs. I tugged it vs. ?I tugged*
    - I kicked at him vs. I kicked him vs. I kicked ?(out)*
- Is that a coincidence?

# The role of the conative alternation

- Plausible motivating metaphor:
  - ACTION IS MOTION: transitive action = motion to a goal; cf. the billiard-ball model (Langacker 1987)
  - Analogy:
    - effective action ↔ target reached
    - non-effective action ↔ target not reached
  - This motivation involves the alternation



# The role of the conative alternation

- The relevance of the transitive counterpart
  - Non-effective actions, but for various reasons
    - No contact *vs.* no effect *vs.* no intention
    - The transitive variant constrains the interpretation, e.g.:
      - *kick at a wall/door* => missed action is unlikely
      - *nibble at an apple* => always affectedness
  - Explicit contrast with the transitive is more informative than abstract meaning
    - Gricean reasoning: « why inserting *at* when a direct object would do the job? »
    - Better characterized as an operation on the transitive meaning

# Conclusion and prospects

- Conclusion & prospects:
  - Reopens the constructions vs. alternations debate
    - Alternations seem to be needed at least in some cases
    - Both can be represented in CxG; a false dichotomy?
    - Essentially an empirical question
  - Need for empirical evidence
    - Still on-going corpus investigations
    - Experimental evidence; a first experiment: sorting task
      - Follow-up of Bencini and Goldberg (2000)
      - Q: are alternations a sorting dimension consciously available to speakers?
    - According to the results, other experiments should be planned (e.g., priming experiment)

# Thanks for your attention!

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