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 Agent V Object1 Recipient Object2 Theme

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

<table>
<thead>
<tr>
<th>Construction</th>
<th>Syntax</th>
<th>Central meaning</th>
<th>Most frequent verb</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ditransitive</td>
<td>$\text{Subj}_X$-$\text{V}$-$\text{Obj}_1$-$\text{Obj}_2$</td>
<td>$X$ CAUSE $Y$ TO HAVE $Z$</td>
<td>give (50%)</td>
</tr>
<tr>
<td>Caused-motion</td>
<td>$\text{Subj}_X$-$\text{V}$-$\text{Obj}_Y$-$\text{Obl}_Z$</td>
<td>$X$ CAUSE $Y$ TO GO $Z$</td>
<td>put (24%)</td>
</tr>
<tr>
<td>Intransitive motion</td>
<td>$\text{Subj}_X$-$\text{V}$-$\text{Obl}_Y$</td>
<td>$X$ GO $Y$</td>
<td>go (32%)</td>
</tr>
<tr>
<td>Resultative</td>
<td>$\text{Subj}_X$-$\text{V}$-$\text{Obj}_Y$-$\text{Obl}_Z$</td>
<td>$X$ CAUSE $Y$ TO BECOME $Z$</td>
<td>make (40%)</td>
</tr>
<tr>
<td>Intransitive resultative</td>
<td>$\text{Subj}_X$-$\text{V}$-$\text{Obl}_Y$</td>
<td>$X$ BECOME $Y$</td>
<td>become (38%)</td>
</tr>
</tbody>
</table>

(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

- 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
    
    | Example 1                          | Example 2                          |
    |------------------------------------|------------------------------------|
    | John kicked at the ball            | (vs. John kicked the ball)         |
    | Mary wiped at the counter          | (vs. Mary wiped the counter)       |
    | Bill shot at the sheriff           | (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)

  - 'direct action towards X'
    - e.g., *smile*, *shout*, *bark*
  - **LOOK** = 'direct one's gaze towards X to make visual contact with X'
    - e.g., *look*, *stare*, *glance*
  - 'display reaction towards stimulus X'
    - e.g., *laugh*, *moan*, *frown*
  - **NON-EFFECTIVE ACTION** = 'act on X without effect on X' (conative construction)
    - e.g., *kick*, *scratch*, *clutch*, *sip*
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:
    \[ I \text{ gave Mary a book vs. } I \text{ gave a book to Mary } \]

- 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!


