Item-based generalizations and argument structure acquisition: some relevant corpus findings

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Outline

- A corpus study in the CxG framework
  - Builds on insights in Construction Grammar
  - Shows that some claims pertaining to the nature of constructions need to be nuanced

Some basic concepts

- Construction Grammar
  - Grammar = inventory of form-meaning pairs
  - No principled separation between syntax and lexicon
- Focus: Argument realization in CxG
  - Principles governing the morphosyntactic realization of the arguments of verbs
  - Argument Structure Constructions (Goldberg 1995, 2006)
    - Pairing of a schematic meaning with morphosyntactic specifications
    - Independent, not projected from the verbs

Some basic concepts

- Why would syntactic constructions convey meaning?
  - Straightforwardly accounts for coercion effects and non-compositionality
  - Predicts the argument structures of a verb
    - Central principle: semantic compatibility between the verb and the construction
    - The semantic relation between the two meanings is constrained

Some basic concepts

- Example: the ditransitive construction

  e.g. *Mary gave her sister a penny.*
  Sam kicked Peter the ball.
  John sneezed the napkin off the table.

  Semantics: Agent CAUSES Recipient TO RECEIVE Theme

  Syntax: $\text{Subject}_{\text{Agent}}$ V $\text{Object1}_{\text{Recipient}}$ $\text{Object2}_{\text{Theme}}$

Some basic concepts

- The origin of constructional meaning
  - ASCs = generalizations over instances, correlation of a syntactic form with a clausal meaning
  - Constructional meaning:
    - originates from lexical meaning
    - serves as the basis for generalizing the syntax to other verbs
  - Importance of “basic purpose verbs”, e.g. *go*, *give*, *put* (Goldberg et al. 2004)
    - Semantic prototype
    - Predictors of constructional meaning
    - A bias towards a semantic prototype facilitates ASC learning (in line with non-linguistic learning)

Some basic concepts

- Example: the ditransitive construction
  - Syntactic form: NP V NP NP
  - Occurs with verbs of transfer: *give*, *throw*, *send*, ...
  - The abstraction of 'X CAUSES Y TO RECEIVE Z' is straightforward
- However: not always so straightforward
  - cf. our case study
  - Raises new questions about abstraction processes as well as the unit status of linking constructions

Overview of the study

- Our corpus study
  - Focuses on lesser studied argument structures: prepositional constructions: [NP_{Sbj} V *prep* NP]
  - Leaves the domain of the “typical” ASCs
  - Method
    - Based on the spoken part of ICE-GB (~600K words)
    - Retrieve all instances of the formal patterns
      - [NP_{Sbj} V *at* NP]
      - [NP_{Sbj} V *with* NP]
    - Check how the theory can account for the distribution

The *at*-construction

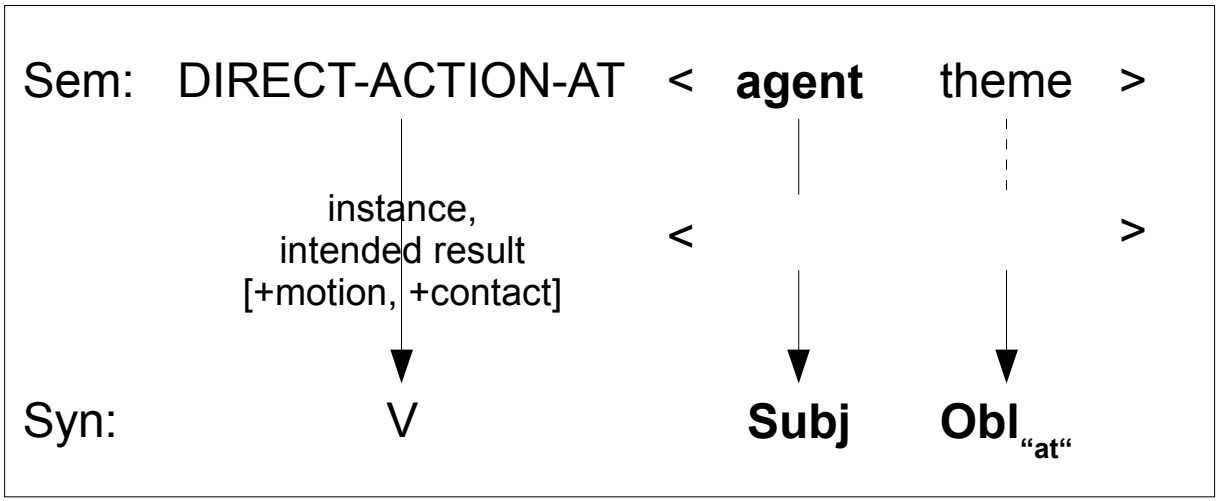
- The *at*-construction
  - We isolate “orientational” *at* (Adams 2001)
    - e.g. *all these Falange started firing at him* [s2a-050_160:2:A]
    - vs. temporal and locative,
      e.g. *I stay at Hilda 's* [s1a-053_167:1]
  - cf. examples (1-8) on the handout
  - Corresponds to the conative construction, evokes two possible schemas (Broccias 2001)
    - Allative schema (directed and attempted actions)

      Sally kicked at the wall.
    - Ablative schema (continuous actions, “bit-by-bit”)

      He sipped at the tumbler of water.

The *at*-construction

- Goldberg's (1995) approach to the conative
  - Generalized meaning = directed action



Taken from Goldberg 1995, p.64

  - How does this meaning relate to usage?

The *at*-construction

- Visual perception = prototypical use
  - Most frequent verb = *look* (~80%)
    - Contrasts with the treatment in the literature
      - Transitive alternation (Levin 1993)

        I kicked the ball vs. *I kicked at the ball*
      - Visual perception not always considered as conative, and even if so, not deemed central

        "*Look* and *aim* are not [+contact, +motion] verbs, and yet they bear an obvious similarity to the cases above."
        (Goldberg 1995:64)
    - Still the best candidate for prototype
      - Most other verbs are not directed actions in other contexts
      - Experiential basis

The *at*-construction

- Two differences with “typical” ASCs
  - The relation between prototype and construction
    - Normally the most frequent verb predicts the constructional meaning
    - Not borne out here, e.g. compare with the Intransitive Motion construction:
      - *The truck rumbled into the tunnel* conveys the meaning of *go*
      - *I shot at the sherif* does <u>not</u> convey the (full) meaning of *look*

The *at*-construction

- The abstraction from lexical to constructional meaning
  - Less straightforward than for the usual examples
  - The use is primarily centered on looking
  - The meaning “directed action” is abstracted and associated with the construction
  - But the core element of meaning of *look* is not carried over to the construction
    - i.e. why does “eat at” not convey visual perception?

The *with*-construction(s)

- [NP_{Sbj} V *with* NP] (cf. handout)

  *I actually **agree with** Mary Jane* [s1a-080_215:1]
  *he 's **battling with** Doncaster and Schofield to hold on to it* [s2a-012_140:7]
  *no magic trick **deals with** all the problems* [s2b-028_106:2]
  *I **spoke with** the chairman of this Select Committee* [s1b-054_10:1]
  *as a child you **started with** poetry* [s1b-048_37:1]

  - Is there an ASC?
    - In a CxG approach, argument linking relies on semantic compatibility with an ASC, but:
      - all these uses do not seem to have much in common
      - it is difficult to discern a constant meaning

The *with*-construction(s)

- Verb classification based on frame semantics
  - We used the FrameNet database
  - Verbs cluster in semantic frames
    - e.g. `Amalgamation` evoked by *combine*, *merge*, *mix*
      "These words refer to *Parts* merging to form a *Whole*. (The *Parts* may also be encoded as *Part_1* and *Part_2*.)"
  - Assumption: same semantic contribution of the construction for all verbs in a given frame

The *with*-construction(s)

- How to test whether there is a different interpretation for each frame?
  - Zeugma tests to detect sense boundaries
    - i.e. does coordination of verbs with distinct frames provoke a zeugma effect?
    - e.g. *She argued and fought with her older brother.*
      ?She started and fought with her older brother.
  - A number of frames emerge as compatible
    - cf. handout
    - Shows a possible candidate for an ASC (cf. new distribution)
    - We focus on those frames only

The *with*-construction(s)

- Further arguments in favor of a construction
  - Coercion effects:
    - Verbs of communication: semantic shift from communication to discussion (*talk to* vs. *talk with*)
    - Verbs of meeting become verbs of discussion, e.g. *I sat and visited with him for hours*
    - Marginally occurs with transitive verbs of social activities, e.g. *marry* (+ semantic change)
  - Productive pattern, open to novel verbs (ex. 23-26)
    - Verbs of communication: *text*, *IM*, *skype*
    - Verbs of fighting: *lightsaber*

The *with*-construction(s)

- Nevertheless different from “typical” ASCs
  - The distribution does not follow a consistent pattern of meaning, rather a complex network
  - A general meaning is hard to exactly define
    - Possibly: two participants of the same ontological type both involved in a common activity, either collaborative or confrontational
  - Coercion effects in many directions and specific to verb classes
  - A beast with many heads?

Conclusion

- These data do not neatly fit into the ASC model
  - Verbal diversity is problematic for determining
    - the exact nature of abstraction processes (the *at*-construction)
    - the semantic prototype of the category (the *with*-construction(s))
- Studying less tightly definable constructions raises interesting questions concerning
  - the principles of meaning abstraction
  - the unit status of these constructions