Verbs, Constructions, Alternations
Usage-based perspectives on argument realization

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Overview

• Field of research: usage-based approaches to grammar
• Domain of investigation: argument realization in English
  – i.e., how the argument of verbs are realized
  – To what extent is it based on usage?
• My thesis ...
  ... reports on a number of theoretical issues in current cognitively-oriented models of argument realization ...
  ... attempts to find usage-based solutions to these problems with a combination of corpus studies and experiments ...
  ... at three levels of analysis: verbs, constructions, alternations.
1. Verbs

• How much AR information is stored at the level of verbs?
  – Two sources of AR information in construction grammar
    1. Lexical entries: set of arguments, or **valency**
    2. Constructions: can add or remove arguments
      e.g., [NP *bake* NP] + [NP V NP NP] (ditransitive) → *I baked you cakes*
  • In principle, only one verbal entry is needed, but:
    – Not always possible to determine which one
    – Likely more than one: trade-off between storage vs. computation
  – Hypothesis: the range of verbal entries is determined by usage
1. Verbs

• Testing the usage-based valency hypothesis
  – Prediction: more frequent valencies of a verb are more cognitively accessible, e.g., for language comprehension
  – Incremental reading experiment with commerce verbs

  • Does the integration time of a third argument for the following verbs varies according to its participant role?

    BUYER buy GOODS { from SELLER vs. for MONEY }
    BUYER pay MONEY { for GOODS vs. to SELLER }
    SELLER sell GOODS { to BUYER vs. for MONEY }

  • Do these differences correlate with differences in the frequency of the corresponding valencies?
1. Verbs

• The prediction does largely hold:
  – For *pay* and *sell*: the more frequent valencies are more cognitively accessible
  – For *buy*: no difference in cognitive accessibility
  – But maybe not incompatible with the hypothesis:
    • The frequency difference is markedly lower
    • Relative frequency might actually be the relevant factor
  – Conclusion: in line with the usage-based valency hypothesis
2. Constructions

• Pairings of a syntactic pattern with an abstract meaning
  – Specify how arguments of a verb are realized
  – Constructional meaning determines productivity and accounts for semantic differences

• Current hypothesis:
  – Constructional meaning is abstracted from frequent lexical material

... Could you give us a sheet of paper ...
... we give you a massive discount ...
... The quote that they sent me ...
... what Endsleigh have to offer me ...
... you couldn't give us a hand could you ...
... I'll send you out that ...
... the programme Ailsa showed you ...
... the College is due to give us a response ...

NP V NP NP

“GIVE”
2. Constructions

• Problem: constructions with abstract meaning
  – e.g., the conative construction (*John kicked at the ball*): means “focus on the agent’s activity” at the most abstract level
  – Not lexicalized by any verb

• Corpus study of the conative construction in the BNC
  – Main finding:
    • Within narrow semantic classes of verbs, frequent verbs provide an indication of the constructional meaning for that class
    • Ingestion-, striking-, cutting-, pulling-conative constructions rather than one single, general conative construction

=> Lower-level constructions can be derived from usage

– Conclusion: **lower levels of generalization are more basic in the emergence of constructions from usage**
3. Alternations

• Pairs of semantically related constructions
  – e.g., dative alternation: *give him the book*/ *the book to him*,
    locative alternation: *load hay onto the truck*/ *the truck with hay*
  – In CxG: usually described as independent constructions, the
    relation between them is disregarded
  – Is it an adequate account of speakers’ linguistic knowledge?
    • Some constructions can be largely seen as constructional variants
      for the realization of a particular event type
    • This warrants a generalization of their common aspects of form
      and meaning
    • Experimental evidence
      – Sorting task: subjects prefer an alternation-based sorting to a
        construction-based sorting
      – Priming studies: semantically similar constructions prime each other
3. Alternations

- How do alternations relate to usage?
  - Hypothesis: alternation-based productivity depends on usage
  - Experiment on productivity in the dative and locative alternation
    - Production of a sentence with a novel verb previously presented in one of the variants of an alternation
    - **Asymmetry** in the dative alternation: subjects “stick to” the to-dative variant but do not “hold onto” the ditransitive variant
    - No asymmetry in the locative alternation
    - These findings correlate with patterns of type frequencies:

\[
\begin{array}{ccc}
\text{to-dative} & \text{ditransitive} & \text{caused-motion} \\
45 & 8 & 213 \\
& \text{ditransitive} & 14 \quad 35 \\
& 2 & \text{with-applicative} \\
\end{array}
\]

=> effect of **relative** type frequency on productivity
Conclusion

• Argument realization is usage-based at all three levels:
  – Lexical entries of a verb depend on that verb’s usage
  – Constructions emerge from frequently occurring verbs, albeit sometimes at lower levels of abstraction
  – Alternations influence productivity when there is a type frequency imbalance
• Complements earlier accounts based on introspection
• Shows that studies of argument realization should take usage data into account
• ... while still opening its host of new questions!