

Productivity asymmetries in argument structure alternations

In this paper, we examine variation in argument realization from the perspective of syntactic productivity, i.e., the ability of speakers to create novel combinations of words, using the grammatical constructions of the language with words previously not witnessed in them. More particularly, we present experimental evidence suggesting that the productivity of argument structure constructions that may be seen as syntactic alternatives, such as the variants of the so-called dative alternation (e.g., *give John a book* vs. *give a book to John*), is not only governed by properties of each construction, but is also influenced by the variant with which a given verb has been previously witnessed.

Our starting point is a study by Conwell and Demuth (2007) on the dative alternation, reporting that children productively use a novel verb productively in the *to*-dative construction if they have heard it before in the ditransitive construction, but less so the other way around. The present study tests whether adults too display a similar productivity asymmetry when they are presented with new verbs in the dative alternation and in the *spray/load* alternation (e.g., *spray paint on the wall* vs. *spray the wall with paint*). We also test if this asymmetry varies with different verb meanings.

In an experiment, we presented forty native speakers of English with short stories containing one variant of the dative alternation or the *spray/load* alternation with a nonce verb such as *norp*. The meaning of the novel verbs could be inferred from contextual cues and fell into two distinct categories for each alternation: verbs of physical transfer vs. communication for the dative alternation, and verbs of change of state vs. change of location for the *spray/load* alternation. After exposure to the short story, subjects were asked to decide on the meaning of the novel verb, by picking a definition among three suggestions, and use that verb in a sentence completion task that allowed a continuation by either variant of the alternation, thus giving them an opportunity of productive use.

For the dative alternation, we found the same asymmetry as that reported by Conwell and Demuth for children, in that our subjects were more likely to use the novel verb productively in the other variant of the alternation if it was previously presented to them in the ditransitive construction than if it was presented in the *to*-dative construction. This asymmetry was observed for both kinds of verb meaning. This trend could not be explained by contextual factors that were shown to influence the choice of variant in previous research (cf. *inter alia* Bresnan et al. 2007), such as the length and pronominality (among others) of the post-verbal arguments. For the *spray/load* alternation, no asymmetry was found, i.e., subjects tended to use the locative verbs in the construction with which they were presented to them.

We argue that these results can be explained by patterns of type frequencies of the respective constructions extracted from the ICE-GB corpus. The fact that many verbs occur only in the *to*-dative construction, but much fewer verbs occur in both variants of the alternation, seems to imply for speakers that a verb used in the *to*-dative cannot be used in the ditransitive; conversely, the low number of ditransitive-only verbs compared to the number of alternating verbs implies that a verb used in the ditransitive can also be used in the *to*-dative. The results obtained for the locative alternation can also be explained along the same lines, in that the class of alternating verbs is smaller than both classes of non-alternating verbs; therefore there is little distributional evidence that a novel verb occurring in either variant of the locative alternation can also be used in the other variant. We conclude that

speakers' knowledge of statistical patterns in language use appears to include information about relations between constructions that enter into an alternation.

References

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