Learning Discourse Profile Constructions: Implications for a Usage-Based Grammar

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Language is inherently contextual, concrete, and discriminatory (Ramscar et al., 2010). As such, language use reflects the simultaneous interaction of different dimensions (Dattner, 2015b). This conception of language renders the explanations provided by most current models of grammar insufficient, thus calling for three main hypotheses: First, language-knowledge has to be concrete, as shown, for example, in acquisition (Ramscar et al., 2013), morphology (Baayen, 2010), or syntactic structures (Dattner, 2015a). Second, a model for syntax has to reflect the multidimensional nature of language use, bringing together aspects of semantics, syntax, morphology, typology, diachrony, acquisition, cognition, and pragmatics (Dattner, 2015b; Du Bois, 2003). And finally, a syntactic model has to reflect aspects of implicit learning that explain, rather than describe, how grammatical knowledge is formed. I maintain that only a model that will consider these three hypotheses will be able to provide an explanation for syntactic usage. Such a model combines the theoretical concept of Discourse Profile Constructions of Dattner (2015b) with the discriminative-learning based approach depicted by the Naive Discriminative Learning model (e.g., Baayen, 2010).

Dattner (2015b) shows that the relevant information for interpreting a dative clause is its usage pattern, or its Discourse Profile Construction, rather than its particular dative-marked participant role. Discourse Profile Constructions are strong links between discourse-related construals of the world and their formal labels (Dattner, 2015b). For example, the following sentence contains a non-lexical dative which poses a problem for interpretation. The Discourse Profile Constructions approach assumes that this sentence belongs to the Extended Transitive Discourse Profile Construction which guides the non-lexical dative’s interpretation:

(1) merkaz ha-mexkar hexin lanu niyar emda
    center the-research prepared for.us paper position
    ‘The research center prepared us a position paper.’

This sentence belongs to a usage pattern which emerges out of a set of utterances that are characterized as having a transitive predicate that belongs to a specific class of verbs, a realis mode, and a three participant event in which the affected participant is highly affected and the affecting participant has high agentivity and volition. That is, it is a non-subjective clause with high transitivity, that construes a relation between a two participant event and a third participant. These (and some other) characteristics in turn are linked to a single construal of the world, and this construal guides the interpretation of the dative-marked participant. In the prototypical case of the Extended Transitive Discourse Profile Construction, it is transfer relations that get construed. In
the less prototypical cases, it can be any high transitivity event that can be construed as affecting a third participant.

The Naive Discriminative Learning model (Baayen, 2010) assumes that learning to productively use language is an error-driven associative learning process, which is sensitive to the informativity of co-occurrences, rather than to their mere occurrence, thus going beyond frequency-based explanations and building on concrete experiences of associations between cues and outcomes. Thus, the formal characteristics of a Discourse Profile Construction may be the cues, and its abstract construal of the world, the outcome. That is, a Discourse Profile Construction discriminates a single construal of the world from the others in the sense that it links unique construals with unique usage patterns.

The present talk adopts the hypotheses presented above and the discriminative motivated learning model, and further examine the dative Discourse Profile Constructions presented in Dattner (2015b) from a learning approach, to show that the concept of Discourse Profile Constructions may aid in learning the associations between form and meaning. Looking at the results of different statistical learning algorithms which are trained to learn a corpus of dative Discourse Profile Constructions, I show that the formal components of a Discourse Profile Construction provide enough cues for the learning algorithm to reach the correct abstract meaning of the clause without assuming any abstract syntactic theory. This implies that a Usage-Based grammar should take into account the concrete, multifactorial, multilayered concept of Discourse Profile Construction as its core form-function correlation, rather than concepts that consider abstract levels of the language in isolation.

References


