

From Corpus-to-Cognition: German perfect tense constructions and inner multilingualism

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Usage-based approaches claim that syntactic representations in the competence (i.e., language knowledge) are shaped by the use of language and thus by performance. Based on this theoretical framework, Schmid (2000) developed the idea of a *corpus-to-cognition-principle* where constructions in corpus data are treated as instantiations of cognitive representations. Different studies extended this principle methodologically by combining usage data and psycholinguistic methods in order to access the use and cognitive processing of constructions (Blumenthal-Dramé 2012). Following this approach, we tested by means of a combined corpus analysis and an Eye Tracking study if there is a connection between the active use of regional perfect tense constructions and their cognitive processing by bilingual Low- and High German speakers. In particular, the phenomenon we investigate is the auxiliary variation in perfect constructions in the Westphalian Low-German area in which especially telic verbs such as *anfangen* ('to begin') show variation with the auxiliaries *sein* ('to be') and *haben* ('to have'). As part of the corpus analysis, we first analyzed both spoken data from bilingual dialect speakers of the Westphalian area (200 hours of interviews and everyday talk) and regional written data (Westphalian newspaper). The corpus analysis of the spoken data revealed that there are regions in which speakers use (a) only the *sein* 'be'-variant, (b) only the *haben* 'have'-variant or (c) show variation between both auxiliaries. Facing the question if these differences in usage have an impact on language processing, we conducted a reading experiment using Eye Tracking methods. The experiment comprised 30 people from three regional areas: (1) Westphalian speakers only using the *sein* 'be'-perfect with *angefangen* ('to begin'); (2) South-Westphalian speakers only using the *haben* 'have'-perfect; and (3) South-German dialect speakers as a comparison group. The test design included 64 test items with varying auxiliaries based on the usage-data from the newspaper corpus. Statistically, the processing times were analyzed with *linear mixed effects models* (Bates et al. 2015). The results of the Eye Tracking experiment showed that the regional background of the reader has a significant effect on processing times of the different perfect auxiliary variants. In contrast to South-Westphalian and South-German readers, dialect speakers from the 'be'-area read *angefangen* 'to begin' perfect constructions with the auxiliary 'be' faster relative to the constructions with the auxiliary 'have'. Moreover, readers from the 'be'-area showed an overall greater telic effect in that also perfect constructions with *begonnen* 'to start' and *aufgehört* 'to stop' were processed relatively faster with the auxiliary *sein* 'be'. Based on these findings, the talk will discuss benefits and shortcomings of methods measuring usage and processing with regard to the reconstruction of syntactic constructions in the mind.

References: Bates, Douglas et al. (2015). Fitting Linear Mixed-Effects Models Using lme4. *Journal of Statistical Software*, 67(1), 1–48. Blumenthal-Dramé, Alice (2012). Entrenchment in usage-based theories. Berlin: de Gruyter. Schmid, Hans-Jörg (2000). English abstract nouns as conceptual shells. Berlin, New York: de Gruyter.