Psycholinguistic Evidence for Abstract Morphosyntactic Schemes and the Challenge of Asymmetric Priming

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The presentation aims to discuss the results of a psycholinguistic study that provide evidence for abstract morphosyntactic schemes as proposed by Construction Morphology (CxM [1]) or Relational Morphology (RM [2]), and at the same time also challenge such approaches.

We designed overt visual priming experiments to explore L1 and L2 morphosyntactic processing of finite (3rd-p.-sg.-present tense) and non-finite (participle II) forms in German [3]. The forms are homonymous, but differ in the degree of their specification: participle II forms are underspecified for person and number and thus express fewer morphosyntactic features than the finite forms. We compared Czech learners of German (N=48, B2/C1 level) with German native speakers (N=48). They were presented with short phrases consisting of syntactically disambiguating contexts followed by a regular verb form that was either finite or non-finite. Participants made grammatical judgements over the whole phrase at the presentation of the verb forms. Prime and target phrases were created by completely crossing whether they contained an inflected verb or a participle and whether they contained the same lexical verb or not (see Table 1).

For the purposes of the current presentation, we highlight two results (see also Figure 1):

(R1) In L1 (and partially L2), morphosyntactically more specified finite forms fully primed morphosyntactically less specified non-finite forms, but the underspecified non-finite forms only partially primed the finite forms (asymmetrical priming). In accordance with [4,5,6] we assume that this is because less specific non-finite primes do not pre-activate all morphosyntactic features (i.e., person and number) comprised by the more specific finite targets.

(R2) In L1, the same priming pattern was observed when the lexical verb was repeated and when prime and target contained different verbs, indicating that morphosyntactic processing in L1 proceeds on an abstract, lexeme-independent level. L2 processing, in contrast, was more bound to individual lexical items and priming was observed only when the same lexical verb was employed in prime and target, but not between morphosyntactic configurations of different lexemes.

Priming between abstract morphosyntactic configurations in L1 (R2) complies with assumptions of RM and CxM: It indicates access to generalized morphosyntactic schemes in the extended lexicon. However, there is no straightforward explanation for *asymmetric priming* (R1) within construction-based approaches, i.e., why the same pair of schemes should prime better or worse depending on the priming direction. A possible solution could be that abstract schemes are (partly) compositional and have access to shared lexical morphosyntactic feature representations.

With respect to the observed L1-L2 differences, we argue that the absence of lexically independent priming in L2 indicates learners' inability to establish or effectively employ this type of generalized schemes during online processing [related to 7,8]. We further argue, based on assumptions of the Fuzzy Lexical Representations hypothesis [9] and the Ontogenesis Model [10], that the reduced asymmetric priming observed for repeated lexical verbs in L2 is grounded in less distinct boundaries between lexical representations. Reduced differentiation between morphosyntactic configurations (here participle vs. 3rd person singular) in L2 results in less pronounced asymmetric priming effects.

Table 1: *Experimental Design*

No Lexical repetition				Lexical repetition			
Prime	→	**Target**		**Prime**	→	**Target**	
er	VERFOLGT	er	BESUCHT	er	BESUCHT	er	BESUCHT
er hat	VERFOLGT	er	BESUCHT	er hat	BESUCHT	er	BESUCHT
er hat	VERFOLGT	er hat	BESUCHT	er hat	BESUCHT	er hat	BESUCHT
er	VERFOLGT	er hat	BESUCHT	er	BESUCHT	er hat	BESUCHT
('he follows / he has visited')				('he visits / he has visited')			

Figure 1: *Results.*
In L1 (left panel), asymmetric priming was observed. Regardless of whether the same lexical verb was repeated in prime and target, the less specific participle targets were always primed completely equally by participles and inflected forms. In contrast, priming for more specific inflected forms as targets was reduced if less specific participles were presented as primes. In L2 (right panel), asymmetric priming between particples and inflected verbs (although significantly weaker than in L1) was observed only when the same lexical verb was repeated in prime and target. No differences in priming of morphosyntactic configurations was observed if the lexical verb was not the same in prime and target.

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