

Word order does not influence German five-year-olds' interpretation of passives

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Understanding who did what to whom is crucial to successful sentence comprehension. This task is especially difficult in passives, whose syntactic subject is the thematic patient of the verb. Passives challenge even advanced child learners of languages as diverse as English, Mandarin, French and Hebrew [1, 2, 3, 4], and their persistent difficulty has been attributed to low frequency in the input [5, 6], deficient syntactic representations [4], unreliable cues [7], and difficulty with syntactic revision [2, 8]. Children learning German also experience difficulties with passives, but outperform similarly-aged peers [9, 10], though a recent cross-linguistic study suggests that this may be partly due to low task demands [11]. German children's relative success with passives may be partly due to their experience parsing flexible word orders: lexical verbs can appear in V2 and sentence-finally, and word orders placing objects before subjects are possible, though rare [12]. Based on recent claims that Mandarin and English learners' success in passives is modulated by the need for syntactic revision [2, 8], we adapted an exacting act-out task which exploited the V2 properties of German to investigate the importance of word order and cue timing in learners' success with passives. Our results show that German learners perform well in passives, regardless of word order, suggesting that the need for syntactic revision impacts passive interpretation less than previously assumed.

We examined the impact of the need to revise on German children's performance in the passive by varying the word order of the cue to voice. 48 German-learning children (mean age 5;0) and 40 adults performed an act-out task while their eye movements were recorded (fixations turned out to be less relevant, given participants' act-out success). Participants heard active and passive sentences, with the cue to voice (auxiliaries *hat* or *wurde*) occurring either late (after the subject NP) or early (after an adverb, but, due to V2, before the subject NP; see Table 1). Correct interpretations were indicated via participants' choice of toys to act out the sentence. Children performed well in passives (80% mean accuracy), with no modulation by cue timing, and no reliable difference to performance in actives (76% mean accuracy). Adults performed at ceiling across conditions (85-95% mean accuracy), unaffected by voice or timing.

This result is striking, since parallels in the structure and frequency of German, Mandarin and English passives, as well as ample evidence of garden-path effects in German, should make German speakers' performance in passives equally vulnerable to misparsing. German passives are rare (<.5% of child-directed speech [13]). German-speaking adults initially misinterpret passives as actives when the cue to voice is ambiguous [14], and they tend to interpret NP1 in both matrix (SVO/OVS) [15, 16] and subordinate (SOV/OSV) clauses as agents [17, 18], even when case-marking on NP1 is unambiguous [16]. German-learning children show sensitivity to word order and case-marking by age five [19], but have difficulty overriding a subject-first bias when word order and thus case-marking are at odds with canonical SO order in matrix clauses [19] and object-relative clauses [20, 21]. German children's good passive performance, regardless of the need to revise, suggests that, unlike English and Mandarin learners, German learners benefit from experience with a variety of non-canonical constructions beyond passives. This study is agnostic as to what specific constructions may be helpful, but a promising possibility is that widespread verb-finality in German may encourage weaker commitments to thematic roles early in parsing.

Table 1: Sample Stimuli	
early active	Heute hat die Robbe ihn gefressen. today has the seal it.acc eaten 'The seal ate it today.'
early passive (no revision required)	Heute wurde die Robbe von ihm gefressen. today was the seal by it.dat eaten 'The seal was eaten by it today.'
late active	Die Robbe hat ihn heute gefressen. the seal has it.acc today eaten 'The seal ate it today.'
late passive (revision required)	Die Robbe wurde heute von ihm gefressen. the seal was today by it.dat eaten 'The seal was eaten by it today.'

References

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