

## The acquisition of word order variation:

### Evidence from elicited repetition of embedded clauses in German

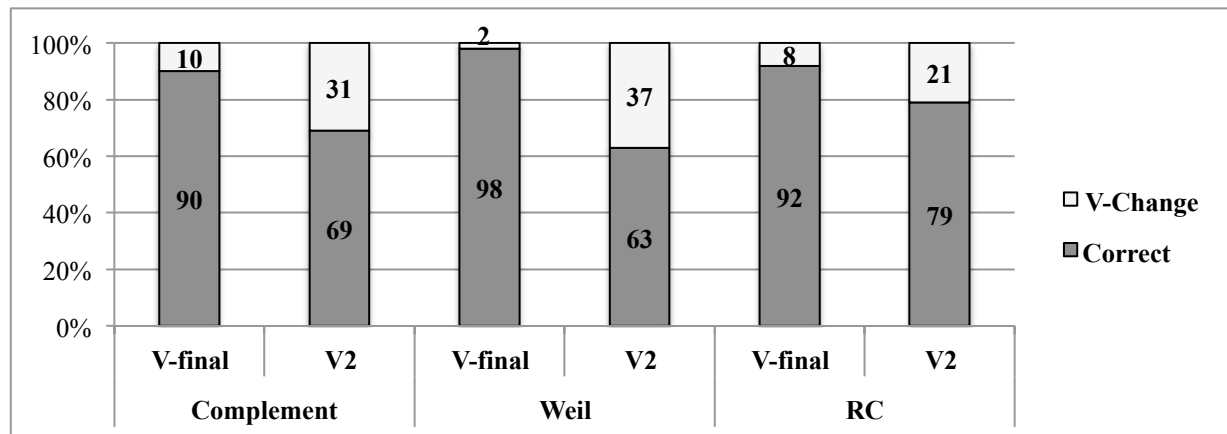
This paper investigates the acquisition of verb placement in German embedded clauses that allow for variation between verb-second (V2) and verb-final (V-final) and sheds light onto how children succeed in acquiring this parametric specification (Westergaard 2009). In embedded clauses in German the verb is usually V-final, but in specific syntactic environments embedded V2 clauses are licensed. This concerns complement clauses (1a/b), *weil* ‘because’ clauses (2a/b), and relative clauses (RCs) (3a/b) (Reis 1985, 1997). Whereas V-final is always a grammatical option, i.e. the underspecified value, embedded V2 is legitimate only if certain syntactic, semantic, and prosodic licensing conditions are met (Reis 1997 for complement clauses; Reis 2013, 2015 for *weil*-clauses; Gärtner 2001 for RCs). Previous acquisition studies on this topic have provided mixed results. Based on spontaneous speech data, Brandt et al. (2010) find that up to age 4 children mainly produce V2 RC-structures and, up to age 5, produce complement clauses only with V2, selected by verbs such as *believe* or *say*, mirroring the input they hear. The authors conclude that children set the verb parameter first to V2 and later to V-final. However, a closer look to the data indicates that many instances of embedded V2 structures could be main clauses (with a left dislocation in case of RCs, with a preceding parenthetical structure for complement clauses). Rothweiler (1993), in contrast, reports a preference for V-final in these types of embedded clause in spontaneous speech. Likewise, focusing on RCs, Sanfelici et al. (2017) find that in experimentally controlled contexts children up to age 5 exhibit a strong preference for V-final over V2 RCs. Hence, in the present study we investigate whether children allow for the alternation between V-final and V2 word orders in complement clauses, *weil*-clauses and RCs (1-3a/b) and whether they show a preference for the same verb parameter value in these structures. We developed a picture-supported delayed-imitation task that required participants to repeat the three types of embedded clauses presented with either V-final or V2 word order as in (1-3a/b). 59 3- to 5-year-old monolingual German-speaking children (Age 3: n=12; Age 4: n=24; Age 5: n=23) and 28 adults were tested. The task consisted of three parts: i) listening to the prerecorded target sentence; ii) pointing to the visual scene matching the sentence (4); iii) repeating the target sentence heard. The experiment comprised 24 test items, 8 items for each embedded clause type, which differed in verb placement only: one half with V-final (1a), and the other half with V2 order (1b). All stimuli met the linguistic restrictions for licensing both V-final and V2 order. Children’s responses were analyzed w.r.t. how often verb placement of the test item was repeated correctly (Correct) and how often it was changed (V-Change) (V2→V-final; V-final→V2). We analyzed whether the percentages of Correct and V-Change repetitions differed between V-final and V2 conditions. The child groups did not differ significantly (Kruskal-Wallis test, all *ps* n.s.); hence the child data are reported as a group. While the adult controls performed at ceiling in both conditions, children correctly repeated the V-final variants significantly more often than the V2 structures in the three syntactic environments (Fig. 1) (Wilcoxon related samples, complements:  $Z=-3.01$ ,  $p=.002$ ; *weil*:  $Z=-5.3$ ,  $p<.001$ ; RCs:  $Z=-2.9$ ,  $p=.004$ ). Moreover, V2 structures were changed to V-final clauses significantly more often than V-final clauses into V2 ones (Wilcoxon related samples, complements:  $Z=-3.04$ ,  $p=.001$ ; *weil*:  $Z=-5.1$ ,  $p<.001$ ; RCs:  $Z=-2$ ,  $p=.05$ ). In summary, our experimental findings reveal a robust preference for V-final over V2 structures, confirming the data in Rothweiler (1993) and the results in Sanfelici et al. (2017) for RCs and extending them to complement and to *weil* clauses. We argue that this preference for V-final is expected under economy-based learning strategies: In case of variation in the primary linguistic data the underspecified value (V-final) is preferred, because their licensing conditions form a superset of those of the other variant (V2). We further discuss in how far this economy account can account for our findings better than an explanation in terms of lack/presence of movement.

- (1) *Anna sagt,* a. *dass ein Junge eine Ziege **gemalt hat.*** V-final  
 b. *ein Junge **hat** eine Ziege **gemalt.*** V2  
 “Anna says that a boy painted a goat.”
- (2) *Der Igel trinkt Wasser,* a. *weil er wirklich sehr viel Durst **hat.*** V-final  
 b. *weil er **hat** wirklich sehr viel Durst.* V2  
 “The hedgehog drinks water, because it is really very thirsty.”
- (3) *Hier gibt es einen Mann,* a. *der ein gefährliches Krokodil **eingefangen hat.*** V-final  
 b. *der **hat** ein gefährliches Krokodil **eingefangen.*** V2  
 “There is a man who has caught a dangerous crocodile.”

(4) Picture paired to test item (1)



**Fig. 1.** Percentages of children’s Correct and V-Change repetitions in V-final and V2 condition across types of embedded clauses



**Selected references:** Brandt, S., Lieven, E. & M. Tomasello (2010). Development of word order in German complement-clause constructions: effects of input frequencies, lexical items, and discourse function. *Language* 86(3): 583-610.\*Reis, M. (1997). Zum syntaktischen Status unselbständiger Verbzweit-Sätze. In: D’Avis & Lutz (eds.). *Zur Satzstruktur des Deutschen. Arbeitspapiere des SFB 340 Nr90. Stuttgart/Tübingen.* 121–142.\*Sanfelici, E., Schulz, P. & C. Trabant (2017). On German V2 “relative clauses”: Linguistic theory meets acquisition. In: E., di Domenico (ed.). *Complexity in acquisition.* Cambridge Scholars Press.\*Westergaard, M. (2009). *The Acquisition of Word Order: Micro-cues, information structure, and economy.* Amsterdam/Philadelphia: John Benjamins.