

## The impact of animacy and rhythm on the linear order of conjuncts in child language.

Isabelle Franz

Goethe-Universität Frankfurt, i.franz@em.uni-frankfurt.de

Gerrit Kentner

Goethe-Universität Frankfurt, kentner@lingua.uni-frankfurt.de

Frank Domahs

Philipps-Universität Marburg, frank.domahs@staff.uni-marburg.de

Prosodic as well as semantic constraints have an effect on children's and adults' speech production. For language acquisition there are many reports indicating a preference for the avoidance of \*LAPSE meaning two or more unstressed syllables in a sequence (Gerken 1996). Furthermore, there are findings demonstrating an effect of ANIM, the preference for animate referents to be produced before inanimate ones (Prat-Sala et al. 2000; Drenhaus & Féry 2008). In our study, we examined the interaction between \*LAPSE and ANIM in German preschool children's speech production as it was done for English speaking adults by McDonald, Bock and Kelly (1993). Our results show first indications of the constraints' influence on the word order of German speaking children.

We tested 18 children aged three to six years with normal language abilities (as confirmed by the TROG-D norms, Fox 2006). In a picture naming task, the children were instructed to produce coordinated noun phrases (e.g.: 'dolphin and planet') without any prespecified order of the conjuncts. As target-items, we used bisyllabic nouns with stress pattern (trochaic, iambic) and animacy (animate, inanimate) as varying factors. Stimuli were diagonally arranged picture pairs matched for visual salience (which was controlled in a pretest). We analyzed the sequences the children chose, yielding either violations of \*LAPSE (*Rátte und Planét*, 'rat and planet'), or ANIM (*Planét und Rátte*, 'planet and rat'), or both (*Hóse und Delfín*, 'trousers and dolphin') or none (*Delfín und Hóse*, 'dolphin and trousers') to examine the constraints' influence on sequencing the nouns within a phrase. Participants were familiarized with the target-items and particular stimulus-pictures in advance.

Overall, children preferably produced animate items before inanimate ones, showing a significant influence of ANIM on word order ( $z = 4.654$ ,  $p < 0.001$ ). These results confirm the findings of Prat-Sala and colleagues (2000) who showed a similar preference to topicalize animate objects for English and Catalan speaking children. Noun frequency had no significant influence on naming order. The prosodic constraint also showed some impact on the linear order so that \*LAPSE constructions were avoided. These results were only significant when animacy didn't vary as a factor ( $z = 2.423$ ,  $p = 0.0154$ ). The rather weak effect of \*LAPSE may be due to shorter naming latencies for trochees (Schiller et al. 2004) and the need in our design to name iambs first when lapses shouldn't occur. Indeed, children had more difficulties naming iambic items so that there could be a counteracting effect of prosody. In any case, our findings can be taken as evidence for the *prosodic licensing hypothesis* (Demuth 2007), according to which children show a propensity for prosodically well formed structures. In summary, our results suggest the ranking ANIM >> \*LAPSE for German speaking children; this ranking corresponds with the one derived from the findings by McDonald and colleagues (1993) for English speaking adults.

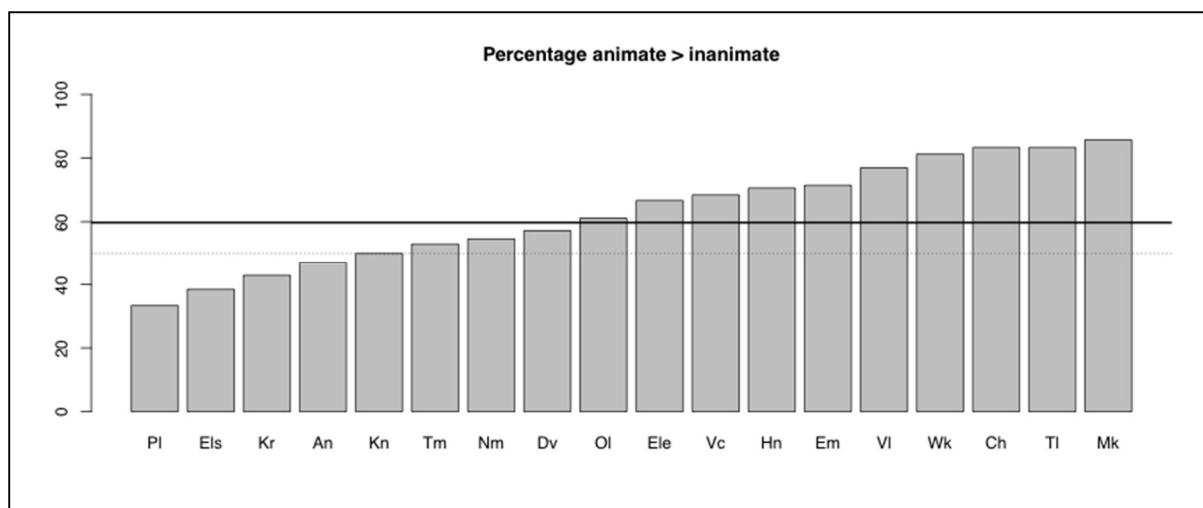


Figure 1: Overall mean percentage for animate > inanimate conjunct orders (solid line) with each bar representing individual percentages per child (chance line dotted)

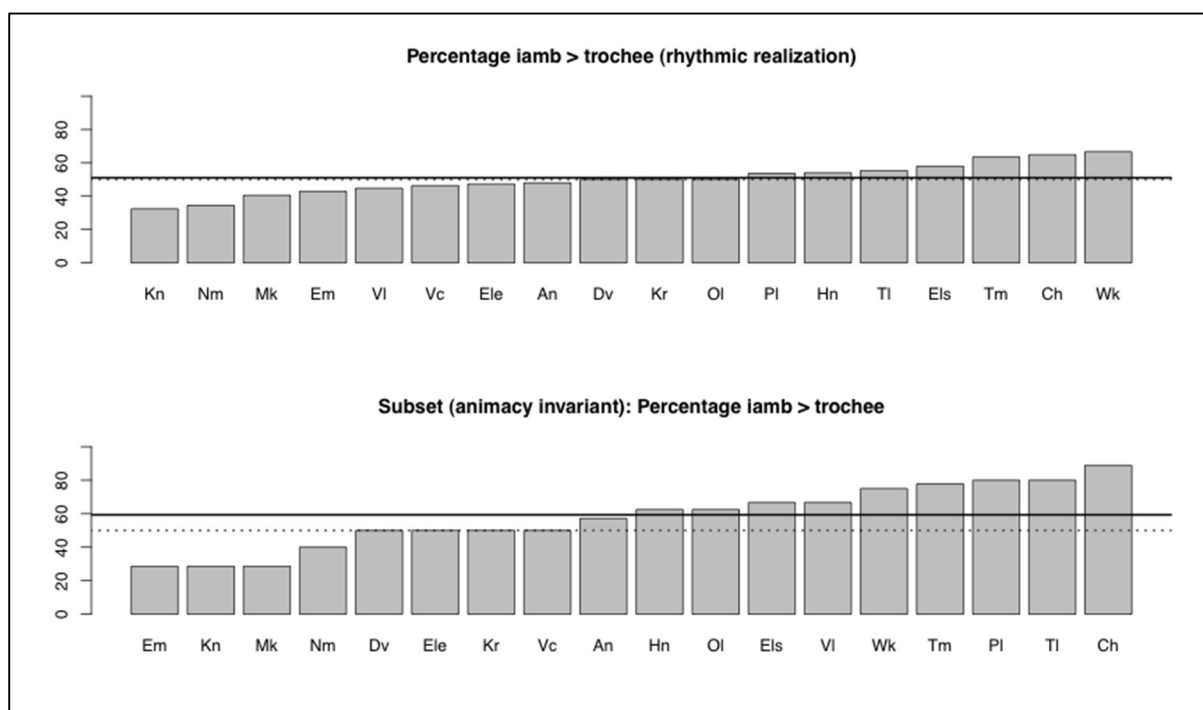


Figure 2: Top panel: Overall mean percentage (solid line) for rhythmic realizations (iamb > trochee). Bottom panel: Mean percentage for rhythmic realizations in subset with items not varying in animacy. Bars represent individual percentages per child.

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