How stress and rhythm condition the acquisition of morphology: 
An experimental study with German and Italian-German children

Earlier production studies on children’s acquisition of lexical stress and function words showed that children’s first realizations of determiners often depend on the prosodic structures that they have acquired up to a certain point. Gerken (1994, 1996), for instance, found that English children are more likely to produce articles when they can be parsed into trochaic feet. So far, there have been only a few studies on how the acquisition of morphology is conditioned by prosody with two competing lexica (e.g., Lleó 2006 on Spanish speech data by Spanish-German bilingual children), but not much research has been conducted on bilinguals’ acquisition of prosody in two languages over a longer period of time.

Our experimental study fills this gap by presenting speech data from a longitudinal production study with monolingual and bilingual children acquiring German. We investigated the interplay of prosodic and morphological constraints in two predominantly trochaic languages: one with a relatively simple inflectional system (German) and one with a richer morphology (Italian). Italian includes over 20 verbal suffixes, whereas the German verbal system is characterized by a lower complexity with respect to suffixation, but by more morphological information encoded within the verb stem (Umlaut, Ablaut) and at the left word edge (i.e. the past participle prefix ge-).

We tested one group of German monolinguals (N=12, from Southwest Germany, aged 1;9–3;10) and one group of Italian-German bilinguals (N=9, from Southwest Germany, aged 2;10–6;4). The children were recorded separately in a quiet room at their kindergarten every four to six months. With the help of picture books and puppets, we elicited words and sentences that differed in complexity of the onset and foot structure. The test words contain either a simplex or a complex onset, or begin in a weak syllable. The sentences are either trochaic or exhibit a stress lapse. The weak syllable under the lapse condition is (i) an article, (ii) a syllable at the left edge of a noun (German Be-/Ge-), or (iii) the German past participle prefix ge-.

For example:

German: 
(i) trochaic: *Peter sucht den* Ball. ‘Peter looks for the ball.’
   lapse: *Lena streichelt die* Katze. ‘Lena pets the cat.’
(ii) trochaic: *Peter malt Gesichter.* ‘Peter draws faces.’
   lapse: *Peter kitzelt Gespenster.* ‘Peter tickles ghosts.’
(iii) trochaic: *Peter hat gelacht.* ‘Peter laughed.’
   lapse: *Tim ist Auto gefahren.* ‘Tim drove the car.’

The younger monolingual and bilingual German-speaking children apply different strategies to resolve the lapse (i.e. they may delete either of the two adjacent weak syllables, except for the past participle prefix ge-). The older children do not omit as many weak syllables, but when they do, the syllable that carries more grammatical information is retained.

We were able to reveal that children acquiring German adhere to trochaic rhythmical patterns at the cost of realizing morphological information. Syllables that do not carry any grammatical information are more prone to deletion than others that express grammatical information. With a time lag of approximately one year, the bilingual children are at the same level compared to the monolinguals.

The research method we use is very effective to reveal the interaction between prosody and morphosyntax in early monolingual and bilingual language acquisition. Moreover, we find frequency effects that account for the deletion rates of weak syllables in lapse environments in children’s utterances. We will discuss the implications of our results for the emerging representation of morphosyntactic information in the mental lexicon of German and Italian-German children.
Selected References