Abstract:

The acquisition of word-initial consonant clusters (#CC) is one of the longest processes in a child’s speech development often continuing until the age of eight (McLeod et al. 2001; Vihman 1996). When acquiring a native language with #CC some two-year-olds produce accurate clusters but more often their production is non-adult-like with tendencies to reduce clusters to singletons or to eliminate them through epenthesis metathesis or other means (e.g. Greenlee 1974; Jarosz 2017). Most approaches to phonological acquisition model discrepancies between child and adult speech in terms of articulatory difficulty or phonological markedness effects with less attention given to children whose pronunciation of #CC tends towards accuracy. Among markedness accounts a common trend is to attribute inaccurate or late production of #CC to sonority profiles: clusters that obey the Sonority Sequencing Principle (SSP) rising in sonority to the nucleus are predicted to be easier to acquire while those which violate the SSP with sonority plateaus or falls should be more difficult and acquired later (Yavas 2003; Gnanadesikan 2004).

The present study of #CC acquisition in Russian is unique in two ways. First instead of focusing on inaccuracies the paper details longitudinal (year-long) data from a 2-year-old bilingual heritage Russian-American English girl Uliyana with early and accurate #CC production in Russian and compares the results with year-long data from a 2-year-old Russian monolingual boy Ženja (Gvozdev 1981). Second instead of looking at languages with small cluster inventories the study analyzes the speed and order of #CC acquisition in Russian a language with over 300 different #CC cluster types including those that violate the SSP (e.g. lgat “to lie”) and Sonority Distance Constraints (e.g. mnogo “a lot”). Despite her small Russian usage vocabulary Uliyana’s acquisition of Russian consonants was fast with the full Russian consonant inventory established by the age of 36 months while Že nja’s – by the age of 38 months. At 24 months Uliyana produced four types of #CC: stop+stop ([ˈktota] kto-to “somebody” stop+sonorant ([lˈkroʃka] kroška “crump”) /s/+stop ([spjit] spit “(he) sleeps”) and sonorant+sonorant ([mnje] mne “to me”) while Ženja produced two: stop+sonorant ([kljuʃ] ključ “a key” and sonorant+sonorant ([mnje] mne “to me”). By the age 3 both children produced almost all types of #CC in words of their lexicons accurately.

Statistical analyses show sonority to be a highly significant predictor of correct #CC production but in different directions for each child (Table 1). For Uliyana sonority reversals were produced most accurately followed by clusters with small sonority differences while sonority plateaus and clusters with large rises were produced less accurately; Ženja showed the reverse pattern (Fig. 1). Each child’s distinct pattern of #CC acquisition can be explained by a sonority-independent factors: (i) individual differences in the acquisition of singletons (Uliyana’s relatively late acquisition of trills vs. Že nja’s relatively late acquisition of fricatives and affricates); (ii)
frequency of #CC in child-directed speech and consequently in the child’s productive lexicon (Fig. 2); (iii) frequency of #CC in the child’s own early favorite words (Uliyana’s spat’ “to sleep” vs. Žena’s bliny “pancakes”).