On the Acquisition of Prosodic Structure: Two Cases

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Blevins (2009:328) maintains that, "A wealth of data illustrate that the majority of recurrent features of child phonology (e.g. CV syllable stage, cluster reduction stage, consonant harmony) are reflections of articulatory developmental stages, indicating developmental constraits on performance, not on language competence." The implication of this claim is that data from developing phonologies cannot provide an argument for the nature of the synchronic phonological grammar of a language. We will argue against this claim by considering two cases reflecting on prosodic acquisition: English foot structure and Cairene Arabic moraic structure.

Research on typical phonological development of American English (e.g. Redford and Gildersleeve-Neumann 2007) show that by the age of 3 many children have target appropriate aspiration, using it to parse words into phrases. Similarly, Inkelas and Rose (2007:712) note consistent target-appropriate accuracy with respect to stress and aspiration of a child, E, from around the age of 2. Davis has shown that the distribution of aspiration (and the feature [spread glottis] more generally) demarcates foot (and word) boundaries in American English (Davis & Cho 2003, Davis 2005, Davis 2010). The consequence is that the relatively early acquisition of aspiration in typically developing children reflects the acquisition of higher level prosodic structure. Inkelas and Cho (2007) observe a pattern of velar fronting of the child E between the ages of 1 and 2 where target velar stops are fronted to alveolars at the beginning of syllables with primary stress (e.g. target "again" where /g/ is pronounced as [d]), at the beginning of syllables with secondary stress (e.g. target "alligator" where /g/ is pronounced as [d]), and at the beginning of a word-initial stressless syllable (e.g. target "conductor" with the initial consonant pronounced at [t]). The velar is pronounced target appropriately in coda position and intervocalically after a stress vowel and before a stressless one, as in target "bagel" where the intervocalic /g/ is pronounced as [g]. This pattern of distribution mimics what is found for aspirated and unaspirated voiceless stops: aspirated stops occur at the beginning of syllables with primary or secondary stress, and at the beginning of a word-initial stressless syllable; the unaspirated variant occurs in the other environments. While Inkelas & Rose show that the velar fronting reflects a specific articulatory developmental stage, it is important to emphasize that the particular pattern seems to be controlled by higher level foot structure given that E already has target appropriate stress and aspiration. Thus, E's developmental errors indeed provide insight to the synchronic nature of American English phonology and the role of the foot in English phonology.

Ragheb & Davis (2010) show that word-final gemination is the common strategy for the pronunciation of target final consonant clusters in Cairene Arabic; for example, target /kalb/ "dog" is pronounced as [kabb] and target /?ism/ "name" is pronounced as [?imm]. While gemination for a final consonant cluster can indeed reflect articulatory development, the fact that it is a common repair strategy in typically developing Cairene Arabic but not in English can only be understood with respect to the specific nature of Cairene Arabic prosodic structure. While a word-final singleton consonant is always extrametrical (nonmoraic) in Cairene Arabic, word-final geminates are always moraic. Target syllables with clusters like /kalb/ are bimoraic; by geminating the final consonant, as seen in [kabb], the child is able to preserve the bimoraic prosodic structure of the target form. We thus conclude that while features of child phonology may indeed be reflections of articulatory developmental stages, they nonetheless offer insight to the nature of the synchronic phonology and can provide an early mirror on language competence.