

## ABSTRACT

This study presents an in-depth analysis of phonological development in Mandarin-learning infants, from babble through the early word period. Different from previous Mandarin studies which focused only on the order of acquisition and accuracy in production (e.g., Zhu, 2002), we investigate segment and tone acquisition as part of an emergent system. This thesis presents three perspectives on our central research question: Is an ambient language effect detectable on the use of tone in Mandarin- and English-learning infants' pre-linguistic vocalizations (babbling period)? What segmental advances and challenges will Mandarin-acquiring children have in their early word production? What tonal advances and challenges will Mandarin-acquiring children have in their early word production? The role of the input is also considered, with a prosodic and segmental analysis of infant-directed speech.

The contributions of the thesis are in three aspects. The results provide evidence that Mandarin-acquiring infants begin to shift to language-specific tone patterns already within the babbling period, by showing that a considerably larger number of vocalizations with Tone 1 are produced by Mandarin-learning infants than by English-learning infants. The analyses were made on two lexically defined points: the 4-word point (4wp) and the 25-word point (25wp), in the single-word production period. Some clear trends in prosodic structures and segment inventory of Mandarin-learning children were found. Their word production starts with "context-limited" words (4-word point), which are elicited from specific exemplars in adult/child routines (e.g. *Mummy* [ma1ma0]; *Daddy* [pa4pa0]; *quack-quack* [ka1ka4]); therefore, the word-forms at this word point are simple and underspecified. Over time, their word production become phonetically specified and more systematic and the influence of the adult language increases as they acquire a lexicon. Separate developmental paths were found for each tone in the single-word production period. Possible reasons for the uniqueness of tone in language acquisition are discussed.