The development of the speech production mechanism in young children: Evidence from the acquisition of onset clusters in Dutch

This thesis is about the development and maturation of the child speech production mechanism, studied from the perspective of a psycholinguistic speech-production model. Toddlers’ word productions often deviate from adult targets and the central idea in this thesis is that such deviations result from a particular developmental state.

The study focuses on the development of word-onset consonant clusters, in children between 12 and 30 months old, acquiring Dutch as their first language. Word-onset clusters are known to be subject to simplification during acquisition, but the studies reported here demonstrate a more complex range of developmental possibilities. Some concrete results showed that reduced onset clusters systematically contain an acoustic trace in the subsequent vowel and that the development of /Cr/ words undergoes seven stages from /CV/ to /CCV/.

To study this phenomenon, both longitudinal and experimental data are used, the experiments comprise both production and perception. Phonological analyses are combined with acoustic analyses. The speech production mechanism appears to develop in a top-down manner. The main error source for onset cluster productions is initially formed by incomplete segmental representations, with complete specifications, syllable spell-out at the phonological encoding level forms the main error locus. Phonetic encoding errors are the most persistent. Variable word forms are a hallmark of early child language; they reveal newly developed abilities and the relative instability of a new developmental state of the speech production mechanism.