

Exploring the development of speech segmentation abilities in French

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Abstract

We will present two series of studies exploring the emergence and development of the ability to segment fluent speech into words during the first year of life, in infants growing up in France, in a French-speaking environment. The importance of studying word segmentation in French comes from the finding that English-learning infants use various word boundary cues, many of which are language-specific. One of the most important cue when word segmentation emerges around 7-8 months is a prosodic/rhythmic cue: these infants segment fluent speech into trochaic units, which correspond to the rhythmic unit of English to which the majority of bisyllabic English words conform. This trochaic based segmentation procedure would not be useful for French, given that (a) lexical accentuation is weakly marked and word-final in French, and (b) the rhythmic unit in French is the syllable. Thus, the development of word segmentation in French should follow a different trajectory in which individual syllables play a more important role. In a first series of experiments, we used the head-turn preference procedure to evaluate whether French infants initially segment bisyllabic words as a whole (e.g., toucan), or, as we predicted, if they segment their initial (e.g., “tou”) and final (e.g., “can”) syllables independently. First, our results did not provide evidence for the segmentation of the bisyllabic words as wholes at both 8 and 12 months. Second, at 12 months, our results established that infants segment final syllables, while we could not find evidence that initial syllables are segmented. A last experiment looking at the segmentation of final syllables at 8 months did not provide any such evidence. The results for the 12-month-olds are compatible with the hypothesis of the use of a syllable-based segmentation procedure for French (we discuss how the failure to find evidence for the segmentation of the initial syllable might be due to difficulties at recognizing *unaccented* initial syllables rather than segmenting them). Moreover, the results at both ages show a lag in the emergence of segmentation abilities compared to results found for English and, more recently, for French Canadian infants. Indeed, Polka et al. (2003) found that French Canadian 8-month-olds can segment bisyllabic words, when the stimuli are recorded by a French Canadian speaker, but also when they are recorded by a Parisian French speaker. This different segmentation outcome might reflect differences in Parisian and Canadian French dialects, but could also reflect differences between the speech modes of the stimuli used with the Parisian infants (intonated adult-directed speech) and those used with the French Canadian infants (infant-

directed speech). In the second series of experiments, we have started to explore the role of speech mode, using Polka et al's Parisian French stimuli to test Parisian French infants.

References