Grammatical Gender Categorization in Infants

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Abstract

We examined whether infants can categorize grammatical gender classes on purely distributional grounds. Stimuli were pseudo-nouns with all possible phonological and acoustical cues to gender removed. In a preferential procedure, French-learning infants were each familiarized with the pseudo-nouns following gender-marking determiners in French: two following ‘un’ (masculine), un mouveil, un ravol, and two other following ‘une’ (feminine), une cagère, une gombal. Determiner-noun pairing was counter-balanced across infants. Infants were then tested with grammatical and ungrammatical trials (Grammatical: one noun of each gender from familiarization occurring with unfamiliarized articles of the correct gender, le mouveil, la gombal; Ungrammatical: unfamiliarized articles of the incorrect gender preceding the other two familiarized nouns, le cagère, la ravol). Infants aged 30 months discriminated grammatical versus ungrammatical trials, showing robust evidence that they have abstract knowledge of gender classes for determiners and use them to perform formal categorization of novel nouns without needing any phonological/acoustic/semantic cues. However, 14- and 17-month-old infants failed to show evidence of categorization in the same task. These results suggest that the ability to perform grammatical categorization based on distributional patterns alone seems to be developed at some point between 17 and 30 months. We suggest that sole distributionally based categorization is more advanced and is preceded by an earlier stage, in which infants break into grammatical categories by using acoustic/prosodic or phonological cues, and by associating content word acoustic/prosodic/phonological cues with co-occurring function words.