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Variation in Children's Word Production:
Can 'Competence' Models deal with young Children's Truncation Patterns?

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Young children (often) truncate words: they omit whole syllables from multisyllabic words, as examplified in (1):

(1) elephant /olifAnt/ [olwant] (Maarten, 1;10.19)

The truncation patterns have been extensively studied: most existing models account for truncations in terms of children's linguistic (i.c. prosodic) competence (i.a. Fikkert, 1994; Demuth, 1995; Gerken, 1996; Pater, 1997; Bernhardt & Stemberger, 1998). These models make two crucial predictions:

1. Truncation patterns are explained as a way to accommodate words into prosodic templates, which are determined by children's (limited) knowledge of the prosodic regularities of the language. The initial rhythmic template is defined as a trochaic foot. Hence, early truncations are considered to be adaptations of words to the trochaic template (Gerken, 1996).

2. Development is conceptualized as a stage-wise progression, which is determined by an elaboration of children's knowledge of the prosodic rules of the language (Fikkert, 1994).

Although metrical competence models have received empirical support (i.a. Fikkert, 1994), a comprehensive test with a large corpus of child language data is currently lacking so that the breadth and the accuracy of the metrical competence accounts of children's truncations still need to be determined.

We present a naturalistic, longitudinal, observational case study of a Dutch speaking boy (age 1;8.29 – 1;11.15). The corpus (available through CHILDES) consists of 19,960 tokens. On the basis of a fine-grained quantitative and qualitative analysis of this corpus, we will challenge the two predictions outlined above:

1. A significant portion of the child's word productions *cannot* be explained as accommodations to a (trochaic) rhythmic template. The relevant data consist of (a) truncations which result in iambic production forms, and (b) truncations of trochaic words.

We identified a number of non-prosodic factors which determine truncations, viz. segmental factors (deemed irrelevant in existing models) and 'performance' factors such as imitation (an interactional influence) and utterance length (a processing factor).

2. A stage-wise progression model is untenable because of (a) inter-word variability (contrary to the predictions, words with the same prosodic pattern do not evolve concurrently: different truncation patterns are found at the same time) and (b) intra-word variability (contrary to the predictions, words show within-word inconsistencies: correct and various truncated variants of the same word coexist).

We identified a number of non-prosodic factors which determine the observed patterns: i.a. word age, frequency in the input, frequency in the child's own production, and truncation rate.

We conclude that current 'competence' models are unable to deal with the variations in children's actual production data and that an alternative model is called for in which the non-prosodic 'performance' factors identified in this study can be accommodated.

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