

Phonology-morphology interaction: Acquisition of Danish noun plurals as a test case

Research has shown that the specific language which the child is acquiring influences the acquisition rates of different language dimensions (Slobin 1985a,b, 1992, 1997a,b). Research furthermore shows that Danish children are late in several respects compared to children acquiring other language (Bleses et al. 2008b), and there is evidence suggesting that Danish phonology and phonetics present the Danish children with a special challenge (Bleses & Basbøll 2004; Delsing & Åkesson 2005). Two specific reduction processes in Danish (weak vowel reduction to schwa, and consonant gradation) conspire to make the syllable structure opaque (Rischel 2003; Basbøll 2005: 258-261, 293-318), and we therefore expect Danish to be difficult to acquire in early stages.

Three types of data are presented: (a) experimental data from two different experiments (176 and 83 children respectively); (b) longitudinal data consisting of spontaneous child directed speech (CDS) and child speech (CS) with four children in the age of 1-3 years; (c) the Danish CDI-studies consisting of a longitudinal study of 182 children in the age of 8-30 months and a cross sectional study of 6.112 children in the age of 8-36 months (see Bleses et al. 2007; Wehberg et al. 2007, 2008; Bleses et al. 2008a,b).

Our analysis of the Danish morphological system is purely sound-based (as against letter-based), taking the view of the language acquiring child. The system thereby deviates radically from standard accounts, with impact for the frequencies of the different plural forms not only lexically, but also in CDS and CS (Kjærbæk & Basbøll 2009). The native Danish system of nominal pluralisation has the suffixes a-schwa, e-schwa and zero with or without accompanying stem changes (Basbøll 2005: 432-442).

Phonetic and phonological structure has impact on the acquisition of morphology. Departing from our different types of empirical data, we shall test four specific hypotheses on this impact in Danish, all relying on the principle that opacity delays acquisition:

- 1) The two overt native plural suffixes in Danish contribute to an opaque syllable structure with few and vague cues for identifying the suffix boundaries, thus plural acquisition in Danish should be late.
- 2) If the plural suffix is subject to dropping, there is less transparency. Since e-schwa, but not a-schwa, often is reduced or dropped, the a-schwa suffix should be acquired early.
- 3) Phoneme change in the root is a strong opacifying factor, but not deletion of a thematic final element, nor change in word prosody (vowel length or *stød* in Danish). Plural formation with changes of phonemes in the root has less transparency, thus plural formation with umlaut and r-insertion should be late, as against plurals with other or no stem changes.
- 4) If the plural formation is phonologically void (pure zeroes), there is less transparency, thus pure zero plurals should be late. Since Danish has a considerable amount of pure zeroes, singular instead of plural is expected to be a rather frequent error type in Danish children (cf. Gillis et al. 2008).

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