PROSODIC MANIPULATION IN CHILD-DIRECTED SPEECH: A CROSS-LINGUISTIC STUDY

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A widely documented characteristic of child-directed speech (CDS) is the modification of certain prosodic parameters (e.g. higher and greater range of pitch; longer duration; slower speech rate and more prominent final lengthening (see e.g. Albin & Echols, 1996; Fernald & Mazzie 1991; Fernald & Simon 1984; Garnica, 1977; Grieser & Kuhl 1988). From a functional point of view, it has been argued that the richness of prosodic cues in CDS may actively function to attract and maintain the attention of the child (Fernald & Simon, 1984; Stern et al, 1982), communicate affective information (Werker & McLeod, 1989) and facilitate language acquisition by, for example, highlighting linguistic structure and aiding word identification (Fernald & Mazzie, 1991; Cooper & Aslin, 1989; Gleitman et al, 1988; Hirsh-Pasek et al, 1987; Kemler Nelson et al, 1989).

This paper reports the findings of a cross-linguistic study of prosodic modifications in CDS (for English, Catalan and Spanish, spoken to children aged 2, 4 ad 6 years), when compared with adult-directed speech (ADS) in the same languages. In particular, we examine modifications in i) speech rhythm, and ii) prosodic lengthening. Since Dominey and Dodane (2004: 128) claim that ‘the essential acoustic property of CDS is the exaggeration or modulation of characteristics that are already present in ADS’, a key objective was to verify whether any observable prosodic modifications can indeed be interpreted as phonetic exaggerations of properties present in ADS, or whether something more structurally complex may be occurring.

For rhythm, applying interval-based metrics (see White & Mattys, 2007), we found characteristic cross-linguistic differences observed in ADS for these languages to be present, but weakened in CDS. Regardless of language and its presumed rhythmic category, CDS was more ‘vocalic’ and more even-timed (lower variability in vocalic and consonantal interval duration) than its ADS equivalent. This signifies neither an exaggeration of ADS prosodic properties, nor a wholesale accommodation to the rhythmic properties of child speech (which showed more even-timing in vocalic duration, but not in consonants, see Payne et al, under revision; Post, this workshop). We conclude that the cross-linguistic tendency for more even timing is more likely to be an artifact of the adult accommodating to the (perceived) communicative needs of the child (i.e. speaking more clearly), than a conscious effort to accommodate to the child’s own speech patterns.

For the study of prosodic lengthening, we found a cross-linguistic tendency to prioritise (and emphasise) final lengthening, while suppressing other prosodic cues. Thus, in both English and Catalan, CDS presented a more selective system of prosodic marking by duration than ADS. Specifically, English CDS appeared to suppress phrase-initial lengthening and the distinction between stressed and unstressed syllables (at least when not in or next to the nuclear accented syllable), while prioritizing phrase-final lengthening. Catalan appeared to suppress lengthening of nuclear accents, while also prioritizing phrase-final lengthening. One result of this is that there was greater uniformity of syllable duration, which may explain the more even rhythm observed in CDS.

References


