

## Change in Prosody as an Alternative: Evidence from Acquisition

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It has been established that there is a licit interaction between prosody, semantics and syntactic structure in adult speech (Vallduvi 1992, Cinque 1993, Zubizarretta 1998, Reinhart 2006, *i.a.*). In child language, however, the role of prosody has not been clearly defined. Some studies suggest that young children differ from adults in the use of intonation/pitch (Behrens & Gut 2005; Chen & Fikkert 2007; Quam & Swingley 2010). Chen (2010), on the other hand, shows that Dutch-speaking 4-5-year-olds are able to use intonation to encode semantic/informational status of arguments in different positions in a sentence. A specific issue to clarify concerns an interaction of prosody and semantics in other languages exhibiting flexible word order and allowing object scrambling.

This paper presents novel empirical data from child Ukrainian that contributes to this issue and provides a crucial piece of evidence for previous proposals. It has been shown that children acquiring scrambling apply syntactic movement optionally and with a higher range of variability than adults (Schaeffer 2000, Anderssen et al. 2009, Mykhaylyk & Ko 2008). This is also the case even for obligatory pronominal scrambling in Ukrainian (Mykhaylyk 2010). Crucially, in Ukrainian, pronouns (and other context-dependent elements, such as definite or partitive NPs) might remain *in situ* only when the intonation of a sentence is modified (as in (1) - (4)). This research investigates whether, in cases where children fail to move a contextually-dependent noun or pronoun, they will compensate for this lack of movement by destressing the object.

To verify this prediction, an experimental study was conducted with 12 3-4-year-old children acquiring Ukrainian. The method was a picture description task, in which the pictures and questions were designed to elicit particular types of nouns/pronouns. The design was based on Mykhaylyk (2010), and the conditions matched those presented in Antonyuk-Yudina & Mykhaylyk's (2009) study on adult Ukrainian. The goal was to identify the intonation preferred for two types of syntactic structures (i.e., SVO and SOV) in four contexts triggering use of definite, partitive, indefinite or pronominal direct object (see (5) for an example). The placement of stress and the type of pitch accent on nouns and verbs were analyzed in Praat and transcribed following ToBI.

The results show that the children distinguish several types of prosodic contours and use them in appropriate contexts. For instance, the SVO structure with a pronominal direct object has the strongest falling pitch accent realized on the verb (H\*+L), while the object is prosodically destressed (see Fig.1), exactly as in the adult results (e.g., Fig.2). Total group results reveal that the children behave mostly adult-like in stressing indefinite direct objects at 100% and often destressing those direct objects that are related to the context (pronouns/definites/partitives) and appear *in situ* (cf. Fig.3 & Fig.4). Other prosodic properties of child and adult speech also differ minimally.

These findings are comparable to Chen (2010): both studies show that children at the age of 4 are already sensitive to the context-prosody correlation. Thus, the data from 3-4-year-old Ukrainian children suggest that they are able to establish context relatedness for pronouns, and in order to mark their special status they can use one of two 'options' available in the grammar: syntactic movement or change in prosody.

- (1) Vin joho      zafarbuje.  
       he him      will.color
- (2) Vin ZAFARBUJE joho.  
       he will.color him
- (3) Vin cej/odyn lystok      zafarbuje.  
       he this/one leaf      will.color
- (4) Vin ZAFARBUJE      cej/odyn lystok.  
       he will.color      this/one leaf.
- (5) Definite/pronominal object in an SOV or SVO structure: Experimenter shows pictures to a puppet (Tiger). There is a car in one picture and a Kangaroo with the same car and a set of tools in another picture. Experimenter asks: What does the Kangaroo do with these tools?
- Tiger: I don't know.  
 Experimenter (to the child): Can you help?  
 Expected responses: He **her/the car** is fixing **or** He **IS FIXING her/the car**.

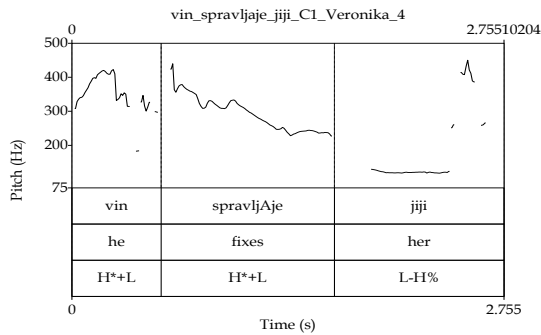


Fig. 1. Pronoun in SVO, child

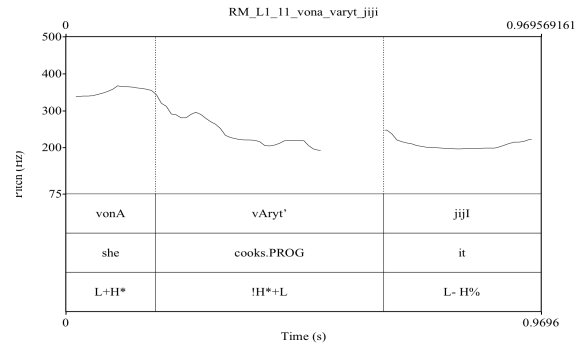


Fig.2. Adult prosody (Antonyuk-Yudina & Mykhaylyk 2009)

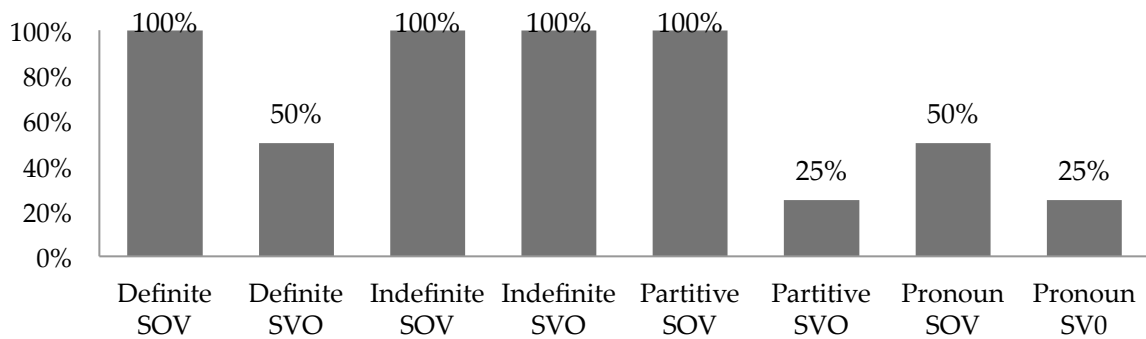


Fig.3. Stressed direct object per condition, children

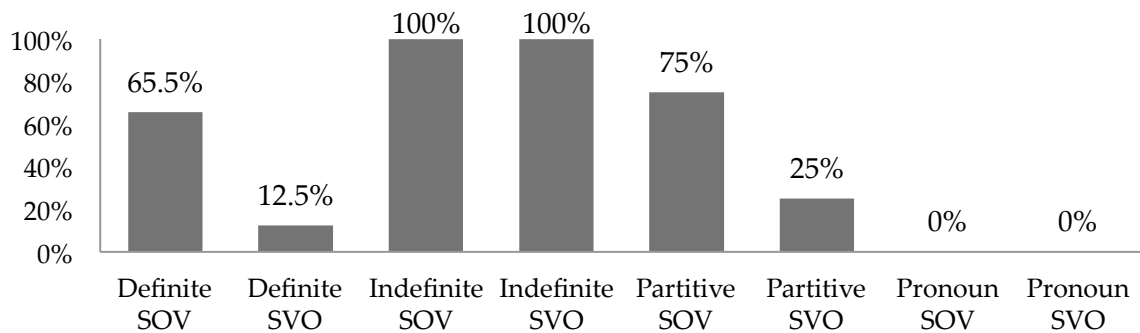


Fig.4. Stressed direct object per condition, adults (Antonyuk-Yudina & Mykhaylyk 2009)