

## Clause Typing and Edge Tones in Early Italian: a longitudinal study

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**Background.** Very young infants are able to exploit the prosodic and metric properties of their language to uncover important syntactic regularities and to increase their lexicon (a.o. Christophe et al 2003, de Carvahlo et al 2017). However, it does not follow that the whole inventory of intonational configurations is mastered from very early on (see Chen 2011): although some general form-function correlations could be universal (Gussenhoven 2001), children still need to associate language-specific intonational patterns characterizing the target language they are exposed to.

Early intonation has been recently analysed adopting the Autosegmental Metrical (AM) framework, laying down the foundations for both cross-linguistic and longitudinal comparisons (Prieto et al. 2011 for Catalan and Spanish; Chen & Fikkert 2007 for Dutch; Frota & Vigario 2008 for European Portuguese). In this scenario, Italian data are still scattered and do not offer themselves to a straightforward comparison (see d’Orrico & Carubbi 2003, d’Orrico et al. 2009). To start filling this gap, we will present the results of a preliminary investigation using the AM framework, analysing a new corpus of spontaneous production by an Italian-speaking child. We aim at: i) determining if the final rise expected in Yes/No questions (Y/NQs) is present from the very early productions and ii) if it univocally identifies Y/NQs, distinguishing them from declaratives and also from Wh-questions.

**The Study.** We collected a new corpus of recorded audio files from the spontaneous speech of an Italian Speaking girl, ‘A’ who lives in Florence. The corpus is a high-density one (Tomasello & Stahl 2004) (>5h/week recordings) and covers a time-window from 19 to 34 months. 3 samples were selected for the intonational analysis, covering a one-year span: from the onset of the 2-words stage (Period 1, month 22, 7 files) to the last available recordings (Period 3, month 34, 12 files), plus an intermediate stage (Period 2, months 28-29, 16 files). Files were transcribed in ELAN (Wittenburg et al. 2004) using the CHAT format (MacWhinney 2000). Based on the pragmatic contexts, sentences were tagged into Declaratives, Yes/NoQs, and Wh-Qs. We isolated thus 486 sentences: see Table 1. As for Period 1, all the Declaratives and Y/NQs were taken (Wh-Qs are unattested). As for Period 2 and Period 3, all Y/NQs and Wh-Qs were included, plus a random sample of Declaratives roughly equalling the total number of Y/NQs and Wh-Qs. This set of sentences was intonationally annotated with the ToBI transcription. In relation to our research questions, we focus on A’s early production of rising boundary tones (H%), which is a prototypical feature of Y/NQs in most varieties of Italian (see Gili Fivela et al. 2015).

**Results.** The results, plotted in Fig.1., show a clear distinction between declaratives, on the one hand, and Y/N and Wh-Qs, on the other. Declaratives are overwhelmingly characterized by a low final contour from Period 1 (Fig.2). Y/NQs – whose number becomes relevant from Period 2 – are predominantly realized with a final rise (Fig.3). Wh-Qs (Fig.4), from their first appearance in Period 2, strikingly pattern with Y/NQs.

**Conclusions.** Our study shows that from the onset of the 2-word stage, A assigns different boundary tones to Declaratives and Y/NQs, a trend that is longitudinally stable. Furthermore, our data do not show any distinction between Y/NQs, and Wh-Qs, since the final rise equally mark both types of interrogatives. In the light of the literature, the presence of such a large number of H% in Wh-Qs is unexpected, since the final rise is reported to be at most optional for Wh-Qs in the different varieties of Italian (see Gili Fivela et al. 2015). This finding could receive at least two types of explanations: a Target-deviant explanation: A. overgeneralizes the Y/NQ final rise to Wh-Qs, associating the same contour to all interrogatives; a Target-consistent explanation: the final rise produced by A. simply reproduces a specific feature of child-directed speech (i.e. adults “*hyperarticulate*” questions with a final rise when speaking to children). Discerning between the two HPs is an empirical matter that can be addressed – in progress – by a further look at adult’s Wh- productions in their child-directed speech.

Sentence Type	Period 1 (22 Months, MLU = 1.34)	Period 2 (28 Months, MLU = 2.46)	Period 3 (34 Months, MLU = 3.19)
Declarative	40	74	146
Yes/No	2	35	74
Wh-	0	39	76
<b>Tot</b>	<b>42</b>	<b>148</b>	<b>296</b>

Table 1. Classification of A's sentences in the three sample periods.

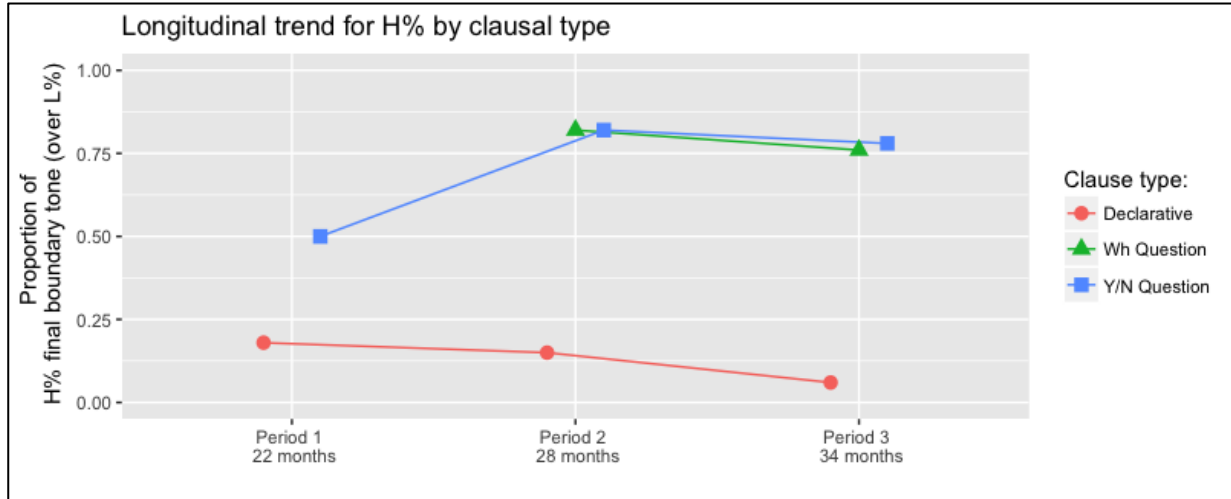


Figure 1. Proportion of A's production of final rising tones. Longitudinal data by clause type.

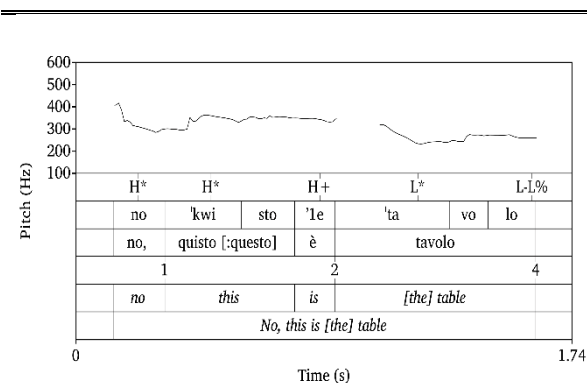


Fig.2 Ex. of a declarative with a L% boundary tone

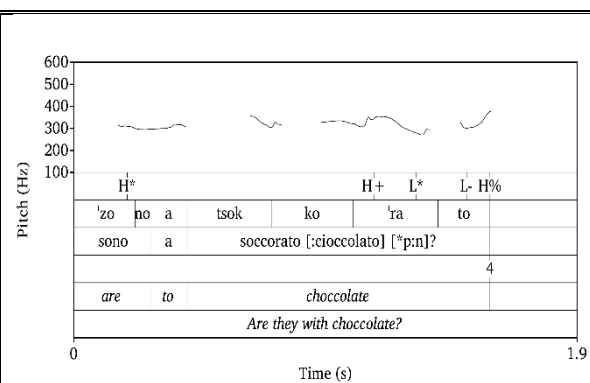


Fig.3 Ex. of a Y/NQ with a H% boundary tone

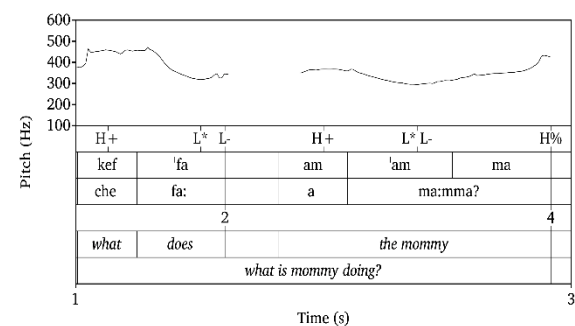


Fig.4 Example of a Wh-Q with a H% boundary tone

**Selected references.** DE CARVALHO, A., Dautriche, I., Lin, I., & Christophe, A. (2017). Phrasal prosody constrains syntactic analysis in toddlers. *Cognition*, 163, 67-79. CHRISTOPHE, A., Gout, A., Peperkamp, S. & Morgan, J. (2003). Discovering words in the continuous speech stream: The role of prosody. *Journal of Phonetics* 31, 585-98. D'ODORICO, L. and Carubbi, S. (2003). Prosodic Characteristics of Early Multi-Word Utterances in Italian Children. *First Language* (23).1, 97-116. GILI-FIVELA, B., Avesani, C., et al.. (2015). Varieties of Italian and their intonational phonology. In Frota, S. & Prieto, P. (Eds.) *Intonational Variation in Romance*. Ch: 5.. Oxford: OUP. PRIETO, P., Estrella, A., Thorson, J. & Vanrell, M. M. (2012). Is prosodic development correlated with grammatical and lexical development? *Journal of Child Language* 39(2), 258-83.