

Region of childhood residence	Number of words
Central Bohemia	570,283
Northeast Bohemia	353,486
Southwest Bohemia	315,716
Bohemian borderland	191,553
Bohemian-Moravian transient region	83,478
Central Moravia	503,391
Eastern Moravia	359,249
Silesia	317,087
Moravian borderland	90,946

Table 2: Number of words in the region of childhood residence category.

Štefan Beňuš<sup>1,2</sup>, Uwe D. Reichel<sup>3</sup>, and Katalin Mády<sup>4</sup>

<sup>1</sup>Constantine the Philosopher University in Nitra, Slovakia

<sup>2</sup>Institute of Informatics, Slovak Academy of Sciences, Bratislava, Slovakia

<sup>3</sup>University of Munich, Germany

<sup>4</sup>Hungarian Academy of Sciences, Budapest, Hungary

sbenus@ukf.sk; reichelu@phonetik.uni-muenchen.de; mady@nytud.hu

### Modelling accentual phrase intonation in Slovak and Hungarian

According to Jun & Fletcher (2014), languages with fixed lexical stress towards the edge of the word often include accentual phrases (AP) as a lower-level structural prosodic unit between the Prosodic Word (PrWd) and the Intermediate Phrase (ip). Accented syllables thus serve as demarcative units at the left or right edge of the AP, like in Korean, French or Japanese (Jun 2005). APs also tend to show a stable recurrent F<sub>0</sub> pattern in various contexts, that can be rising, falling, or rising-falling, depending on the language.

Slovak and Hungarian both have fixed word-initial lexical stress and they thus belong to languages for which AP might be a relevant structural level in their intonational phonology. This hypothesis was explored in a recent study (Anonymous)

that employed the linear stylisation of the Fo midline throughout putative APs and intonation phrases (IPs). It was assumed that if the prosodic structure includes APs, then AP midline 1) differs from the IP one, and 2) shows a preference for rising or falling patterns. These assumptions were supported by the Hungarian data while the Slovak data did not allow for a similar conclusion.

While this previous study employed linear stylization for the assessment of Fo contour types, testing thus the relevance of APs based on falling or rising Fo contours, the current study uses modelling by 2nd order polynomials to test the assumption that rising-falling contours serve as evidence for AP relevance in a given language. Using spontaneous data for testing the proposal for a formal structural description (AP level within the intonational phonology), this study fits within the conference topic *language use and linguistic structure*.

The material consisted of 50 Slovak and Hungarian spontaneous utterances forming a single IP with at least 2 pitch accents and a low phrase-final boundary tone. These were selected from collaborative dialogues (5 utterances of 10 Slovak and 10 Hungarian speakers, respectively). Within each accent group a 2nd order polynomial was fitted to the Fo contour; examples from both languages are shown in Fig. 1. The curvature of the Fo contour can be thus quantified in terms of the quadratic coefficient of the polynomial. Given the lack of evidence for falling (or rising) recurrent APs in Slovak (Anonymous), we wanted to test the frequency of rising-falling contours as evidence for the relevance of APs. Quadratic coefficients differed significantly between the Slovak and the Hungarian data (2-tailed t-test,  $p < 0.001$ ); also shown in Fig. 2. For the Slovak data the mean quadratic coefficient value of -0.99 reflects a tendency for concave (rising-falling) Fo patterns. For the Hungarian data this tendency was not observed (mean 0.59). This difference was confirmed by the finding that in the Slovak data the parabolic stylizations contained an Fo maximum within the time interval of the accent group significantly more often than in Hungarian ( $\chi^2$  test,  $p < 0.001$ ).

The results show that the rising-falling Fo pattern is frequent in putative Slovak APs. This is in line with the observation that pitch accents in Slovak often have delayed peaks and thus the APs might begin with a rise followed by a fall after the peak. It can be argued that Slovak makes use of the initial accents within a phonological word as an AP phrase-boundary marker.

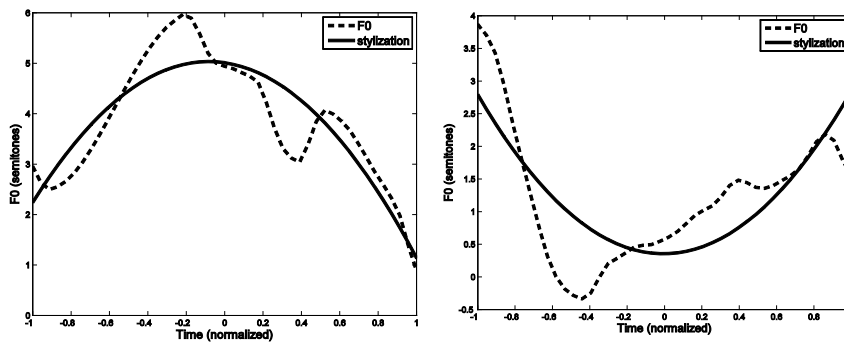


Figure 1 Examples of interpolated and normalized F0 contour (dashed line) together with the 2<sup>nd</sup> order polynomial stylization (solid line) for Slovak (left) and Hungarian (right).

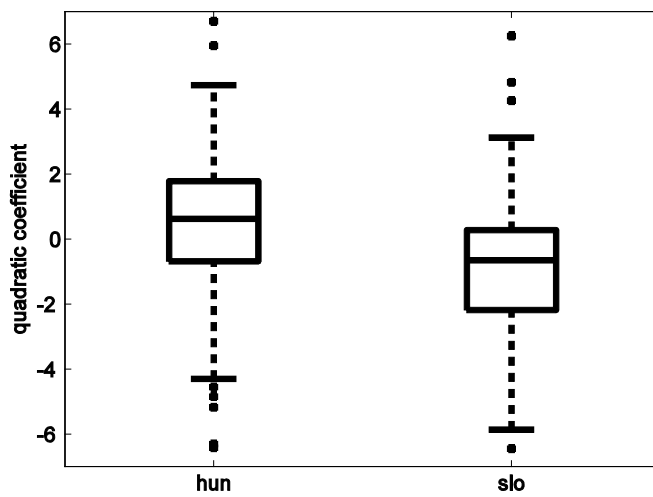


Figure 2 Boxplots showing quadratic coefficients for the Hungarian (left) and Slovak (right).

## References

- Jun, Sun-Ah (Ed). 2005. *Prosodic typology*. Oxford: Oxford University Press.
- Jun, Sun-Ah and Janet Fletcher. 2014. Methodology of studying intonation: From data collection to data analysis. In *Prosodic Typology II: The new development in the phonology of intonation and phrasing*. Oxford: Oxford University Press.
- Mády, Katalin, Reichel, Uwe D. and Beňuš, Štefan. 2013. Accentual phrase in languages with fixed word stress: a study on Hungarian and Slovak. *Proc. Workshop Advancing Prosodic Transcription for Spoken Language Science and Technology II, Phonetics and Phonology in Iberia, Lisbon, 2013*.

## Lolita Bérard and José Deulofeu

Laboratoire LaTTiCe & Université Paris 3, Laboratoire LIF & Université de Provence  
lolita.berard@gmail.com ; jose.deulofeu@gmail.com

### On the limit between relative and “consecutive clauses”: the case of [NP Det [-def] N que X] construct in spoken French: a corpus based analysis.

We consider utterances like the following taken from spoken French corpora, in which an indefinite NP is associated with a large range of constructs introduced by the complementizer *que*:

(1) *c’est des endroits que tu peux pas y aller* (C-oral-Rom)

these are places where you cannot go there

(2) *il y a deux sortes d’ouvriers il y en a que tu leur parles ils comprennent de suite et il y en a que bon au début ils sont pas d’accord avec toi mais il faut leur expliquer ils comprennent après quand même* (Corpaix)

‘There are two kinds of workers there are someones that (when) you discuss with them they understand immediately and there some (others) that well first they don’t agree with you but you need to explain the things to them they understand nevertheless at the end’

Our presentation addresses the syntactic status of these utterances. The traditional analysis for (1) and (2) is to posit a non standard type of relative clause based on *que* as a complementizer and *y*, *leur*, *ils* as resumptive clitic pronouns (Guiraud 1966), which is considered for French as an alternative strategy of the standard *wh*- relatives (*des endroits où tu peux pas aller*). Abeillé & Godard (2006) observe that this analysis cannot be extended to (3) where no resumptive pronoun appears:

(3) *il y a des feux qu’il faut appeler des pompiers tout de suite* (Corpaix)

there are fires that it is necessary to call the firemen immediately