Why tune or text? Explaining crosslinguistic variation in the resolution of tune-text conflicts Marina Vigário, Marisa Cruz and Sónia Frota

University of Lisbon

Tonal material must be realized onto segments and patterns of temporal coordination are usually defined between tones and metrical or structural positions. However, segmental strings do not always contain enough voiced segmental material for the realization of complex tones or tone movements [1-7].

Languages, language varieties and dialects display an array of strategies to deal with emerging tune-text conflicts (see Table 1). If we exclude languages with variable alignment ([7]), strategies can be described as falling into two broad classes: (a) those that preserve the segmental material, at the expense of changes in tonal realization (compression, undershooting, tone truncation) – from hereon *Segmental Preservation Strategies* (SPS); and (b) those that preserve the tonal material, with impact on the segmentals (lengthening, vowel split, vowel epenthesis, blocking of vowel deletion or semivocalization) – from hereon *Tune Preservation Strategies* (TPS). In addition, there seems to be a general tendency for each language/variety to show more than one strategy to resolve the temporal conflict, but languages/varieties that select TPS tend not to make use of SPS, and vice-versa.

In this research we aim at contributing to the understanding of why languages show a preference for either TPS or SPS. On the basis of data from different languages and language varieties and dialects, we propose that the choice between strategies that preserve either the tune or the text springs from more general properties of the languages. Languages that organize their phonology predominantly around lower phonological levels care more for the segmentals, the tonal changes being tolerated and possibly subordinated to preserving the text; languages whose phonology is predominantly organized around higher, phrasal levels, by contrast, care more about the tune, segmental changes being more tolerated and possibly subordinated to preserving or enhancing the suprasegmentals.

The main empirical basis for this hypothesis is data previously analyzed from two varieties of Portuguese: Brazilian Portuguese (BP) and Standard European Portuguese (SEP), which implement strategies belonging to distinct groups, respectively SPS and TPS ([5-6]; Table 1 and Fig.1). In BP, many facts suggest that the phonology clusters predominantly around segments and lower prosodic domains: (i) systematic vowel epenthesis to fulfill well-formedness constraints at the syllable level; (ii) binary rhythmic stress; (iii) clipping phenomena at the foot level; (iv) nearly every word bears a pitch accent. In EP, productive phonological processes tend to involve higher domains and phenomena that span phrasal domains, including: (i) massive vowel deletion creating sequences of 6 and more consonants, triggered by prosodic reasons (context: unstressed position; consequence: enhanced word stress); (ii) unclear status of the syllable, due to unstressed vowels' deletion (resulting consonant sequences may remain unsyllabified); (iii) no evidence for the foot level - in normal speech no rhythmic stress, no foot-based clipping; (iv) lower prosodic levels do not bear pitch accent; (v) only the head of the IP is obligatory assigned a pitch accent, resulting in sparse tonal distribution and enhanced marking of IP head ([6, 8], a.o.).

An OT analysis is offered, innovatively considering the interaction of tonal and segmental constraints in lower and higher domains, expressing through a different ranking in both varieties the relevance of low domains and segmental preservation in BP, and of high domains and tone preservation in EP. Data coming from a meta-analysis of the literature will be presented supporting our hypothesis that the phonological profile as defined by the predominant types of phonological phenomena in the language predict the kind of strategies selected to deal with tune-text conflicts.

Table 1 –	Tune-text	accommodation	strategies	([1-7], a	1.0.)
			0	<u>\L</u> 12	

Accommodation strategies	Language/Language variety			
Truncation	Swedish; Northern Standard German; Palermo Italian; Friulian;			
(tonal targets are not realized)	Brazilian Portuguese – Atlantic Coast; European Portuguese – Braga;			
	Leeds English; Belfast English; Moldavian Romanian; Catalan			
Undershooting	Northern Standard German; Seoul Korean; Catalan			
(tonal targets are partially realized)				
Compression	Swedish; Southern Standard British English; Northern Standard German;			
(tonal movements are realized faster)	Catalan; Cambridge English; Newcastle English; Seoul Korean			
Re-alignment	Neapolitan Italian; Dutch; German			
(leftward shift of tonal targets)				
Lengthening	Bari Italian; Standard European Portuguese; Fataluku			
(segments are lengthened)				
Split	Standard European Portuguese; European Portuguese – Funchal			
(1 vowel splits into 2 vowels)				
Epenthesis	Standard European Portuguese; European Portuguese – ALE; European			
(vowel insertion)	Portuguese – ALG; Bari Italian; Tashlhiyt Berber			
Blocking of deletion/semivocalization	Standard European Portuguese; European Portuguese – ALG; European			
(a process originating insufficient	Portuguese – Funchal			
segmental space is blocked)				



Figure 1. Yes-no question contour in Southern BP (left) and SEP (right), without (top) and with (bottom) tune-text conflicts: truncation in BP and epenthesis in SEP (['ma.ci]).

Selected references

[1] Grabe, E. 1998. Pitch accent realization in English and German. JPhonetics, 26(2): 129-143.

[2] Grabe, E., Post, B., Nolan, F., & Farrar, K. 2000. Pitch Accent Realization in Four Varieties of British English. *JPhonetics*, 28: 161-185.

[3] Frota, S. 2002. Tonal association and target alignment in European Portuguese nuclear falls. In Gussenhoven & Warner (eds.), *Laboratory Phonology* 7. Berlin: Mouton, 387-418.

[4] Grice, M., Savino, M., Caffo, A., & Roettger, T. B. 2015. The tune drives the text: schwa in consonant-final loan words in Italian. In *Proceedings of the 20th ICPhS, Glasgow*. Glasgow, UK.

[5] Frota, S., Cruz, M., Castelo, J., Barros, N., Crespo-Sendra, V., & Vigário, M. 2016. Tune or Text? Tune-text accommodation strategies in Portuguese. *Proc. of the Speech Prosody 2016*. Boston.

[6] Frota, S., & Prieto, P. 2015. Intonation in Romance. Oxford: Oxford University Press.

[7] Grice, M., Roettger, T.B., Ridouane, R. 2015. Tonal association in Tashlhiyt Berber. Evidence from polar questions and contrastive statements. *Phonology*, 32(2): 241-266.

[8] Wetzels, L., Menuzzi, S., & Costa, J. 2016. (eds.) *Handbook of Portuguese Linguistics*. Malden: Willey-Blackwell.