

## Text-tune adjustment in Tunisian Arabic

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Tune-text adjustment is observed in many languages in contexts of tonal-crowding, most commonly as adjustments of ‘tune to text’, with compression or truncation of the tonal contour (Grabe, 1998; 2004), but cases of ‘text to tune’ accommodation are also reported. In Standard European Portuguese (SEP), a phrase-final vowel is appended to utterance-final words ending in a sonorant consonant, in yes-no questions with a bitonal boundary tone (H+L\* LH%) in read and spontaneous speech, and in vocatives (H\* !H%) (Frota et al., 2015). In English loanwords into Bari Italian (BI), the incidence of schwa-epenthesis is variable across speakers and found only in read speech, but similar structural factors are relevant, with epenthesis found most often in the context of a bitonal boundary tone, in yes-no questions (L+H\* L-H%) and in non-final position in lists (L\* L-H% or H\* H-^H%), and with similar effects of metrical structure (more epenthesis on monosyllables) and segmental content (more epenthesis after a final voiced consonant) (Grice, Savino, Caffo, & Roettger, 2015).

This paper investigates a text-tune adjustment phenomenon in Tunisian Arabic (TA), observed primarily in yes-no questions, not previously reported in studies of TA intonation (Aloulou, 2003; Knis, 2004). In our data, the final nuclear accent in yes-no questions is commonly a late peak rise (L\*+H) followed by a complex boundary tone (H-L%), but a schwa-like vocoid is appended to the last lexical item by some speakers (Fig. 1). This paper investigates schwa-epenthesis in TA in corpus data to see if its occurrence varies by tonal contour, metrical structure and segmental content. In addition we explore the degree of variation across speakers and whether the phenomenon is restricted to read speech or not.

Speech data were collected in Tunis, Tunisia, in 2014, with 12 speakers (6 female). All are L1 TA speakers, also fluent in French (taught in schools in Tunisia from age 10). Declarative and interrogative questions were embedded in a dialogue read aloud by a pair of speakers, with metrical structure of the last lexical item in each sentence systematically varied (stress on antepenult, penult or final syllable). We extracted a set of yes-no questions (*ynq*, N=68) and a set of control sentences of other types (declaratives/wh-questions) in which the last lexical item is the same as in one of the *ynqs* (N=55), and a set of read speech vocatives (N=12). We also looked for tokens of schwa-epenthesis in spontaneous speech, in yes-no questions in Map Task data (Anderson et al., 1991) and in list items elicited in a Dialogue Continuation Task (cf. Frota & Prieto, 2015). All data were qualitatively analysed by the author based on auditory impression, by reference to the pitch contour, spectrogram and waveform using Praat (Boersma & Weenink, 2015).

We find schwa-epenthesis in 54% of read speech *ynqs*, but this varies by gender: female speakers display more epenthesis (76%) than male speakers (32%). The primary conditioning factor is, however, prosodic context due to presence of a bitonal boundary tone: no epenthesis is produced by any speaker on any utterance bearing a simple rise or fall. For example, one speaker produced a vocative with a L\*+H H-!H% contour and schwa-epenthesis was observed in this case (Fig. 2), but not in any other vocative (which bore rises L\*+H H% or falls H\* L%). Unlike SEP and BI, there is no effect of metrical structure (epenthesis occurs on words with final, penult or antepenult stress) or segmental content (epenthesis occurs on words ending in vowels, sonorants and obstruents). Unlike BI, epenthesis was produced in spontaneous yes-no questions in the map task by the same speakers who produce them in read speech, but was not found in non-final position in lists.

Although this overall picture suggests text-tune adjustment in TA may be contact-driven (cf. Ng, 2013), the generalisations found here do not fully reflect the patterns observed in Portuguese and Italian. Since the gender distribution is a potential indicator of ongoing change in progress in TA intonational phonology, we hope this first survey will facilitate the design of further research to determine the full extent of the phenomenon as well as alternative potential sources of contact.

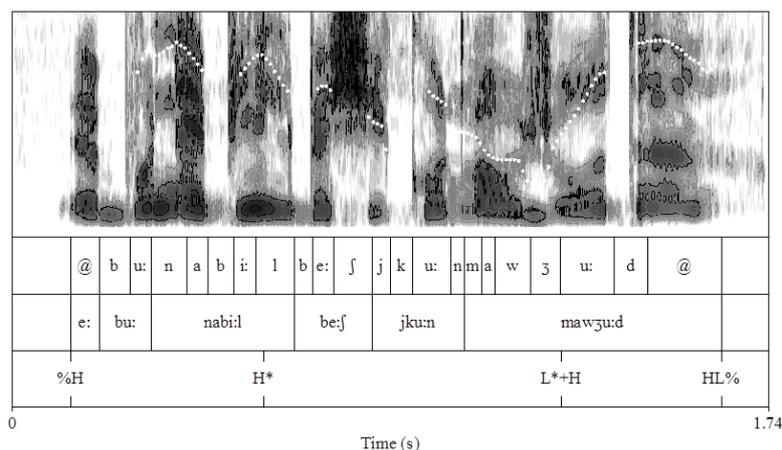


Fig. 1: Yes-no question from read speech data produced with schwa epenthesis [tuns-ynq6-f4].

e: bu: nabi:l be:ʃ jku:n mawʒu:d  
 um father-of Nabil PART he will be present  
*Will Nabil's father be there?*

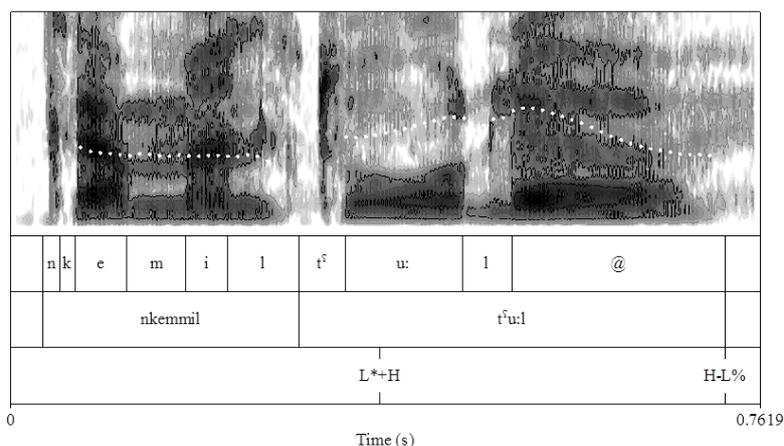


Fig. 1: Yes-no question from map task data produced with schwa epenthesis [tuns-mp1-f3.109-110].

nkemmil tʰu:l  
 I-continue straight ahead  
*Should I go straight ahead?*

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