

# Prosodic constituent structure and the spread of anticipatory pharyngealisation in Arabic: a cross-dialect study



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## Introduction

Recent studies have shown that the phonetic realization of speech varies as a function of *prosodic boundaries*, e.g. phrase [7], word and syllable [5], [6] and [3]. In previous research on Pharyngealisation in Arabic, it has been claimed that speakers of different Arabic dialects take different domains for pharyngealisation, i.e., syllable in Egyptian [2] and word in Libyan [4].

## Research Question

Is anticipatory pharyngealisation blocked in each Arabic dialect by the boundary of the domain it takes for pharyngealisation?

## Methodology

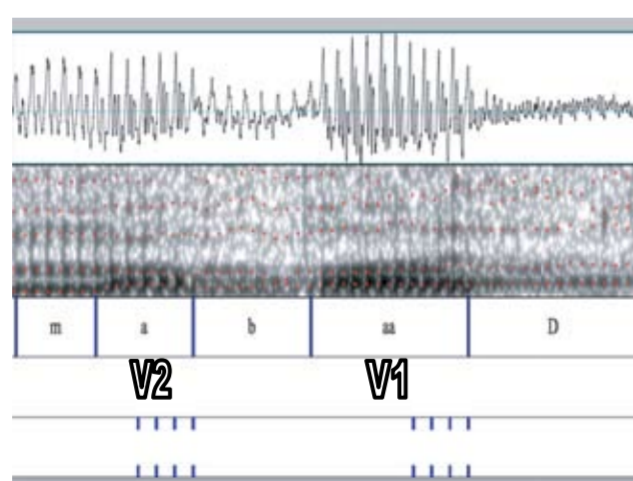
• **Experimental conditions:** Four sets were designed (each emphatic sequence has its plain counterpart):

- Within word boundaries: [mabaaDish] vs. [mabaadish]
- Word boundary: [NP[N # ADJ]] [dabbaaba#Day?a] vs. babbaaba#daafya]
- Phrase Boundary: [S[NP] # [VP]: [iddabbaaba#Daa?it] vs. [iddabbaaba#daabit]
- Parentheticals (full intonational phrase boundary): [binnisbaliddabbaaba#Daa9] vs [binnisbaliddabbaaba#daab]

**Speakers:** One speaker of each dialect participated in this study.

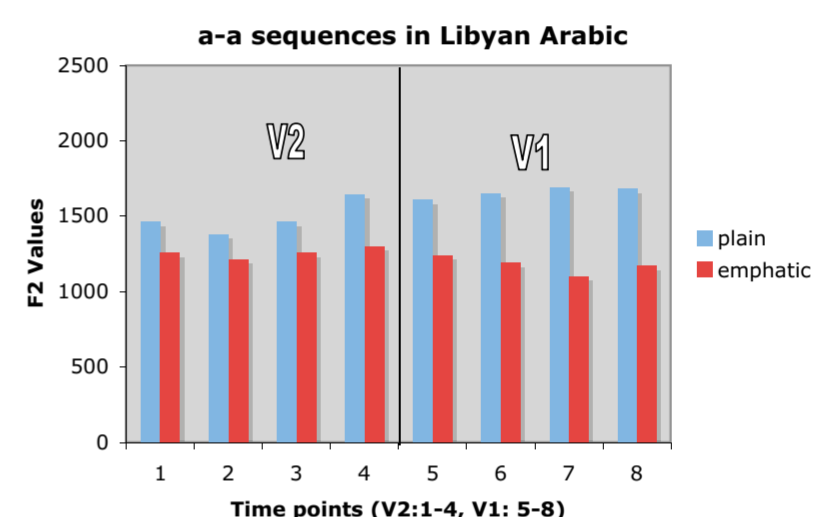
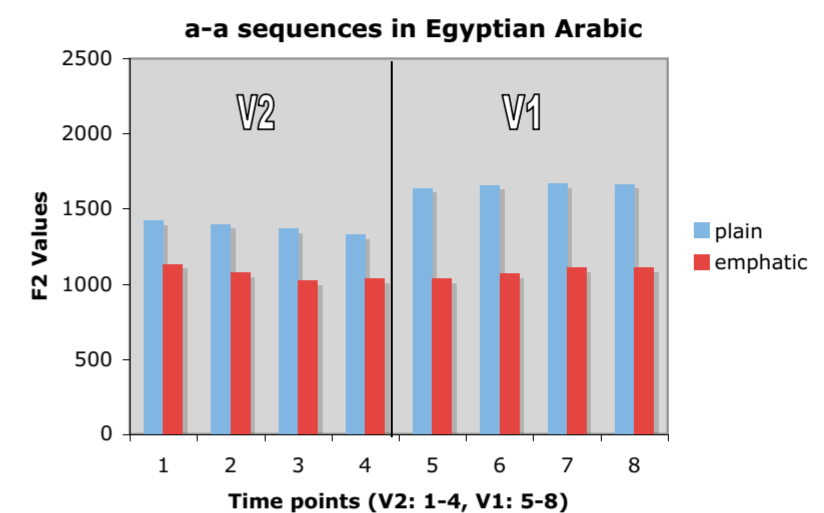
**Measurements:** F2 values for vowels in [VbV] sequences preceding the emphatic trigger were measured at four different points as shown in the spectrogram.

A point tier was added and four measurement points are marked successively at each vowel.

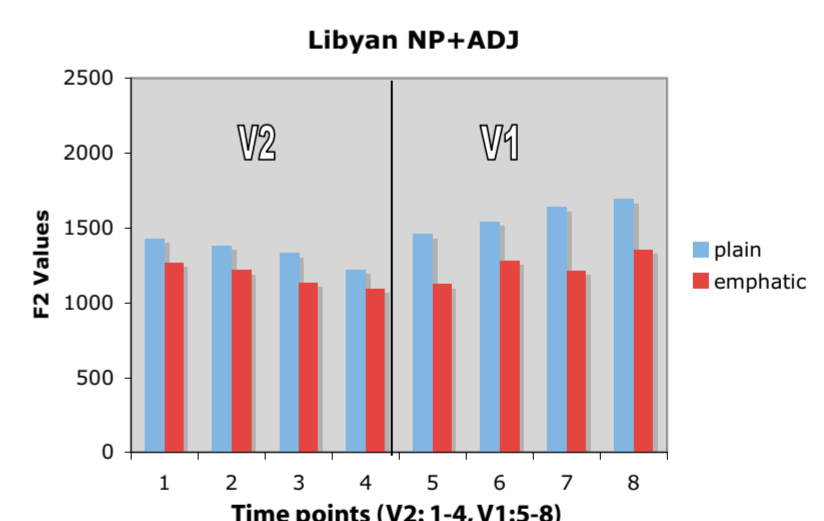
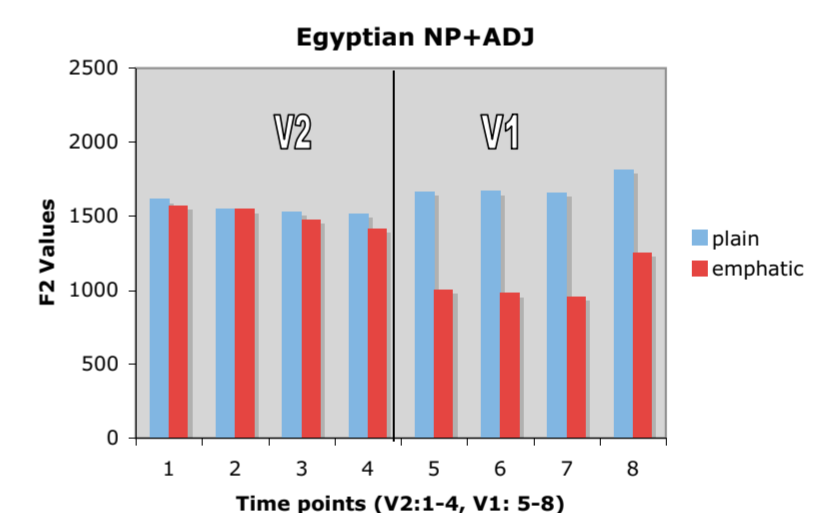


## Results

a) Within word boundaries do not block anticipatory pharyngealisation effects in either dialect.



b) Word boundary: [NP[N ADJ]]: significant effects on both vowels in Libyan, but only on V1 in Egyptian.



c) Intonational phrase boundaries seem to show similar effects as those by phrase boundaries.

## Conclusion

Preliminary analyses for pharyngealisation domain show that:

In the Egyptian speaker's data, pharyngealisation seems to spread over the entire word.

In the Libyan speaker's data, however, pharyngealisation seems to spread beyond word boundaries. Phrase and IP boundaries show similar effects on the spreading in both dialects. These results seem to be consistent with a feature spreading model.

**Future Analyses:**

An additional IP boundary set (with a pause) will be included. More measurement points will be added to cover all V1 and V2 vowel intervals.

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