

## Pitch accent distribution and prosodic phrasing in Egyptian Arabic

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The influence on prosodic phrasing of not only syntactic structure but also phonological size constraints has been demonstrated in a variety of languages (eg: Italian, Ghini 1993; English, Selkirk 2000; Spanish, Prieto 2005), and minimal prosodic size constraints have been argued to explain sparse phonological phrasing observed in Egyptian Arabic (EA) (Hellmuth 2004). Equally, within autosegmental-metrical theory (Ladd 1996), some authors have analysed the distribution of intonational pitch accents in terms of the distribution of prosodic phrase heads and/or edges (eg: (major) phonological phrases in French, Post 2000; minor phonological phrases in English, Selkirk 2000). This paper provides new data from a syntactically varied corpus of read and semi-spontaneous speech which supports the claim that phonological phrase boundaries in EA are relatively sparse, but in addition reconciles this with the facts of EA pitch accent distribution (a pitch accent is observed on every prosodic word (PWd)), yielding fresh evidence for the role of intermediate levels of phrasing in EA.

Five speakers of EA read a narrative folk tale three times, and were later asked to re-tell the story from memory. The second reading of the story by each speaker, together with their retold semi-spontaneous rendition, was prosodically transcribed by the author, with reference to F0 track and spectrogram extracted using Praat 4.2, and a detailed survey was made of accentuation patterns of content vs function words in the corpus.

The phrasing facts observed in the corpus confirm that the effects of the interface constraint AlignXP are outweighed by a prosodic requirement (BinMaP) by which (major) phonological phrases (MaP) which must be formed of at least two minor phonological phrases (MiP); in turn a MiP is itself minimally branching, resulting in MaPs of at least four PWds. Simplex subject-verb-complement sentences of five or more PWds, such as 1) below, cannot be divided, and are rendered by all speakers in a single MaP (cues to phrasing include intonational boundary tones and pause). Short sentences are usually phrased independently, which is analysed as mapping of a clause (or Comma Phrase) to an Intonational Phrase (IP) (Selkirk 2005). However, short sentences can be optionally merged with an adjacent sentence, and in complex sentences, containing an embedded verb phrase or relative clause, insertion of a boundary between the two clauses seems to be optional, yielding the following constraint schema for EA: Align IP R/Comma Phrase R, BinMaPMiP >> Align XP,R.

- 1 i) ({[gúHa] [káan]}) {Tul [9úmr-uh]} {[9áayiš] [f-il-?ariyáaf]<sub>PWd</sub>}<sub>MiP</sub>)<sub>MaP</sub>  
 ii) ({[gúHa]}){ken Tul [9úmr-uh]} {[9áayiš] [f-il-?ariyáaf]<sub>PWd</sub>}<sub>MiP</sub>)<sub>MaP</sub>  
       Goha was all life-his living in-the-country

As regards accentuation, an intonational pitch accent is observed on almost every content word in the entire corpus (60 out of 1741 content words were unaccented (the adverbial modifier /Tuul/ was unaccented by all speakers, as in i) and ii) above). Unaccented words do not have the status of PWd, as shown by the fact that they undergo unstressed vowel shortening (Watson 2002) (unaccented [ken] vs. accented [káan] in i) vs ii) above), and must therefore be analysed as free (pro-)clitics to an adjacent (accented) lexical word with PWd status. A standard analysis of such free clitics places them within the phonological phrase, with proclisis arising from right alignment of a PWd edge to a phonological phrase edge (Selkirk 1996). The rich distribution of (accented) PWds and sparse distribution of MaP edges in EA thus suggests that the correct formulation of this constraint is of alignment of a PWd edge to a MiP edge (Align, MiP, PWd, R). The contrast between the facts of EA and those of a language such as Northern European Portuguese (Vigario & Frota 2003), in which rich pitch accent distribution correlates with *frequent* phrase boundaries, is captured by appeal to the PWd as the domain of pitch accent distribution in EA (vs MiP in NEP).

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