

„Stress focus’ is paralinguistic in Egyptian Arabic

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It is widely assumed that focus carries the strongest prominence in its domain (Truckenbrodt 1999, Samek-Lodovici 2005, Büring 2010, among many others). It is also well known that the strong hypothesis of the focus-stress correlation is refuted by empirical data from languages that are said not to mark focus by prominence or even not by prosody at all, specifically African tone languages (cf. e.g. Downing & Pompino Marschall 2013, Rialland & Robert 2001). But even intonation languages have been claimed to not necessarily exhibit the strongest prominence on the focus constituent. Thus, Féry (2013) suggested prosodic alignment as an alternative unified account of the focus-prosody relation. Similarly, it has been proposed that focus is prosodically encoded by phrasing (Ladd 1996) with the main prominence arising as a positional effect of metrical structure (cf. also Calhoun 2010).

Another line of research addresses tonal features as correlates of information structure, specifically as markers of *topics* or *themes* (Jackendoff 1972, Büring 1997 and later work, Steedman 2000). Tonal correlates of information structure are often neglected by syntacticians and semanticists (e.g., Lambrecht 1994), with some notable exceptions (see references above). Tonal accounts have been proposed mainly by intonationists (Bolinger 1986, Brazil 1997, Gussenhoven 1983) and investigated thoroughly in much experimental work in the past two decades. However, the grammatical relevance of tonal contours or pitch accent shapes in marking information structural categories, such as *contrastive topic*, have also been called into question, for instance by Calhoun (2010) who argues that metrical structure is the only reliable prosodic correlate of information structure in English.

In the present paper, I show the results of a comprehensive investigation of a wide variety of data from Egyptian Arabic (EA), coming from qualitative and quantitative corpus research as well as quantitative analyses of experimental laboratory data. Based on these results, I will argue that EA speakers make use of all above mentioned prosodic strategies, albeit to different degrees and in an admixture that seemingly differs from the way English or German speakers use them. I show that

- (i) although EA speakers more often than not ‘mark’ (non-final) in-situ *narrow focus* by relative prominence, not all speakers adopt this strategy and the speakers who do it do this to different degrees. Figure 1 shows a plot of an SVO sentence uttered by one speaker in five different information structural conditions: *all-new*, *narrow subject focus* (informational and contrastive) and *theme-rheme (or topic-comment)* (continuous and contrastive topic). It illustrates for instance that the two types of *narrow focus* and *topic-comment* sentences pattern together, respectively. And it also illustrates the relative prominence of *narrow foci* by post-focal pitch-range compression (Xu 2011), but crucially not by deaccentuation;
- (ii) *broad focus (or all-new)* is not marked by stress or prosodic prominence in EA. On the contrary, the presumed position of a focus exponent, the accent on the final lexical element of an intonation phrase is frequently less prominent than the other accents, as also argued for French (Féry 2013). This may even be true for a phrase-final *narrow focus* as in the example in Figure 3;

- (iii) tonal contour is more important as a correlate of information structure than 'stress' in EA, in accordance with a strong tendency to apply a *theme-rheme* partition to utterances, frequently, but not obligatorily, supported by phrasing. While the *theme* usually exhibits an overall rising contour, the *rheme* is associated with a falling contour. This is illustrated in Figure 2 below where the *theme* or the *narrow focus* only consists of a single-word constituent and where the rise or the fall, respectively, are thus manifested by a single pitch accent. It is also illustrated by Figure 3, in which the *theme* is a syntactically left-dislocated object that is phrased separately and associated with a final rise enhanced by a high boundary tone.

Figure 3 also shows the syntactic IS strategies employed in EA: clitic left dislocation and marked word order. It could be argued that there is some degree of functional complementarity between the syntactic and the prosodic strategies, but this is clearly not true for *thematic constructions* where the syntactically more marked goes hand in hand with the prosodically more marked (El Zarka & Schuppler 2018). It rather seems that prosodic correlates can be found whether they are needed or not, perhaps as an additional grammatical means to structure the information. Alternatively, it can be argued that prosodic reflexes of IS are *prima facie* paralinguistic, i.e. located in the phonetics and thus do not belong to the language as such, but to the speaker. Such an approach is suggested here. I propose that relative prominence marking and *theme-rheme* partition are manifestations of more general cognitive functions (highlighting important notions, pointing forward, asserting, etc.) in line with the biological foundations of intonation (Gussenhoven 2004) and that they have not been grammaticalized in EA.

If the above observations are correct, some theoretical conclusions may be drawn: (1) Instead of aiming at a unified account (focus as main stress or phrasing and alignment), it seems more plausible that all prosodic correlates that have been suggested as correlates of IS notions in the literature are at work in conspiracy to the same functional end. (2) These strategies, being grounded in the biological foundations of human behaviour, are present even where they have not been completely conventionalized, i.e. embraced by the grammar. (3) Such an approach could be modelled in a probabilistic framework (Boersma & Hayes 2001) as suggested by Calhoun (2010) with the different prosody-IS correlations as constraints of harmonically aligned form-function pairs whose weighting in a specific language can be investigated empirically. Such an approach has been applied to the effect of person on syntactic alignment by Bresnan et al. (2001). These authors show that although the constraint of person in the choice of voice construction is not grammatical in English, person still has a strong effect on the actual choices speakers make. Similarly, we could argue that the form-function relations of the prosody-IS interface have a potentially universal impact on the actual prosodic realizations in languages. Linguistic research has to determine which of these (and other not mentioned) strategies are more important than others in a specific language, what their precise phonetic manifestations are and whether or not they are grammatical, as they arguably are in English.

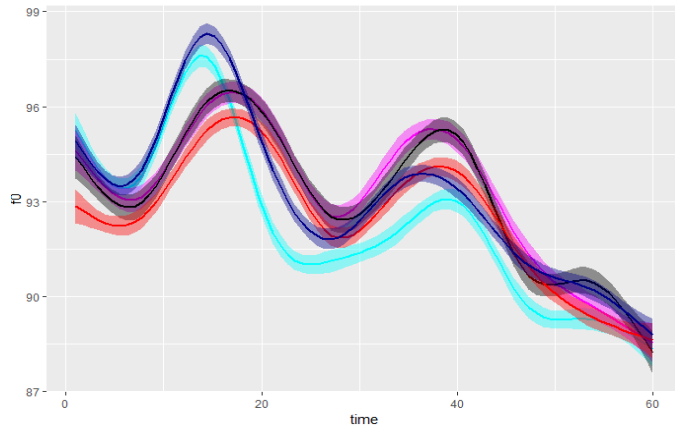


Figure 1. Time-normalized F0 contours on complete utterances of an SVO sentence in different information structural conditions (all-new=black, contrastive narrow focus=cyan, non-contrastive narrow focus=dark blue) and topic (non-contrastive=red, contrastive=magenta) for a female speaker.

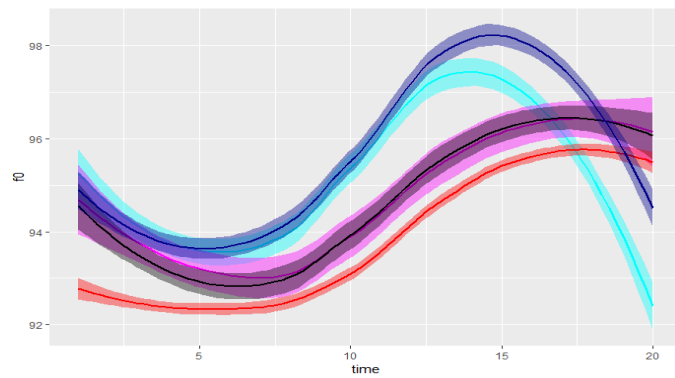


Figure 2. F0 contours on the subject of an SVO sentence in different information structural conditions (all-new=black, contrastive narrow focus=cyan, non-contrastive narrow focus=dark blue) and topic (non-contrastive=red, contrastive=magenta) for a female speaker.

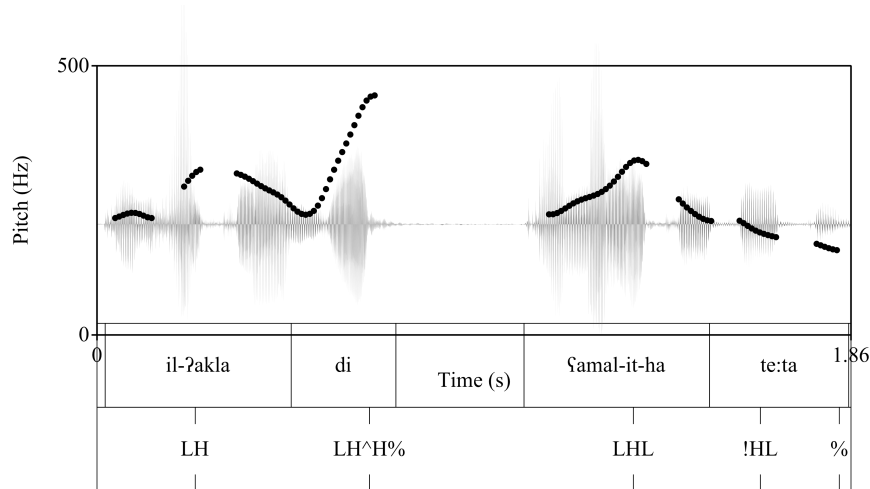


Figure 3. F0-track and waveform of the utterance *il-ʔakla di / ʕamal-it-ha te:ta* (the-dish this / she.made-it granny). 'My GRANDMOTHER made this dish'. Elicited with the question 'Who made this dish?'.

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