

The intonation of yes/no questions in Luganda

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Yes/no questions are frequently marked in languages with a phrase-final rise in pitch (Bolinger 1978), which can be represented with a H% boundary tone (Pierrehumbert 1980). In Luganda, a Bantu language of Uganda, yes-no questions are marked by a “super-high tone” immediately following the last lexical high tone in the sentence (Hyman 1982), as in the statement and corresponding question in examples (1) and (2). If there is no lexical high tone in the sentence, a question is marked by a high tone at the beginning of the sentence. This distribution is parallel to that of a H⁻ phrase tone in English and other languages (Pierrehumbert 1980, Grice et al. 2000), which occurs between the last pitch accent and the final syllable of a phrase. The H⁻ in Luganda, however, is positioned relative to lexical tones, rather than other intonational tones.

To clarify the differences between statements and yes/no questions in Luganda, which have only been sketched in the impressionistic literature, a production study was conducted with 19 speakers of the language. They read aloud sentences differing in the location of the last lexical high tone: HLL (lexical high tone in the antepenultimate syllable), LHL (lexical high tone in the penultimate syllable), LLH (lexical high tone in the final syllable), and LLL (no lexical high tone in the sentence). Each sentence was produced as a question and as a statement. In sentences with a lexical high tone (HLL, LHL, LLH), f₀ was measured in the interval including the last syllable with a lexical high tone and the syllable following that (if there was one). In syllables without a lexical high tone (LLL), the f₀ measurement interval was the whole sentence.

Figures 1-4 present normalized f₀ trajectories for questions and statements in the 4 tone-position classes. Figures 1-2 show these trajectories in conditions with a nonfinal lexical high tone (HLL and LHL), with the first panel showing the syllable with the lexical high tone, and the second panel showing the following syllable. The statements (blue triangles) have a peak on the first of these syllables, while the questions (red circles) have a higher peak on the following syllable. Figure 3 gives the trajectories in the final syllable for sentences with a final lexical high tone (LLH), within which the f₀ peak is likewise later and higher in questions than in statements. In sentences with a lexical high tone, the f₀ maximum was found to be significantly greater in questions than in statements, and significantly later in the measurement interval. The f₀ maximum was also lower and earlier the closer that syllable was to the end of the phrase.

In LLL sentences, without a lexical high tone, there was no sharply defined rise-fall tied to a particular syllable. Figure 4 shows the mean normalized f₀ values at each 20% increment of two subintervals of the utterance: from utterance onset to the second syllable of the verb, and the from there to the end of the utterance. The mean values are greater in questions than in statements up until the sentence-medial measurement points, where the trajectory drops to a lower utterance-final value in questions than in statements. In these LLL sentences, the f₀ maximum was significantly greater in questions than in statements. The f₀ value was higher in questions than in statements at each measurement point up to the second syllable of the verb, and then at later points was significantly lower in questions than in statements.

The results support an analysis in which Luganda yes/no questions are marked by an intonational high tone which occurs as early in the phrase as it can get without preceding a lexical high tone. The f₀ value of this phrase tone is upstepped in the position after a high tone, and is reduced the closer the tone is to the end of the intonational phrase.

Examples

(1) Statement: [ò̀mùlè:nzìjàmáɲò:mù:ntùò̀mùlálà]

o- mu-lenzi y- a- many-a o- mu-ntu o- mu-lala
 IV-1- boy 3SG/SUBJ-PST-know-FV IV-1- person IV-1- differen
 “The boy knew a different person.”

(2) Question: [ò̀mùlè:nzìjàmáɲó:mù:ntùò̀mùlálà]

o- mu-lenzi y- a- many-a o- mu-ntu o- mu-lala
 IV-1- boy 3SG/SUBJ-PST-know-FV IV-1- person IV-1- differen
 “Did the boy know a different person?”

Figures

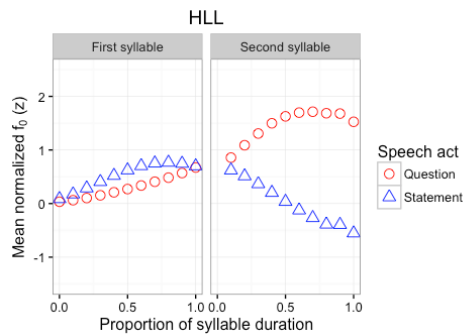


Fig. 1

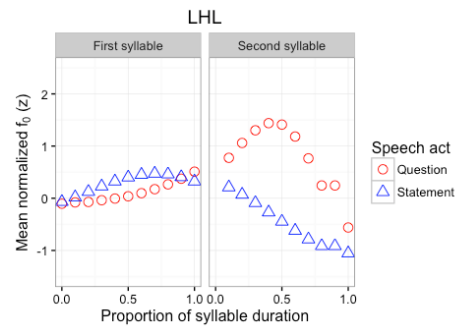


Fig. 2

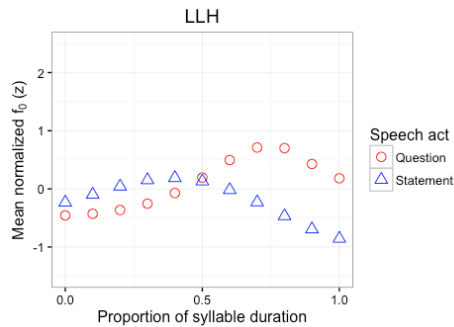


Fig.3

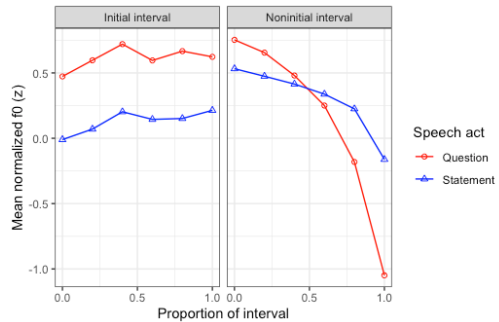


Fig. 4

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