When epistemic meaning overrides the constraints of lexical tone: a case from Kammu

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In previous studies aimed at separating the effects of lexical tone from phrase-final intonation, phrase-final accents of two dialects of Kammu were analyzed [1] [2]. Kammu, a Mon-Khmer language spoken primarily in northern Laos, has dialects with lexical tones and dialects with no lexical tones [3]. Results of the studies indicated that both dialects utilize the phrase-final accent to simultaneously convey focus, phrase finality, utterance finality, and speaker engagement. In a reassessment of these results we find evidence pointing towards the influence of epistemic meaning manifested as speaker engagement which can override the constraints of lexical tone in the tonal dialect.

The speech material used in the previous studies was comprised of 47 read sentences. The sentences were composed in order to control for lexical tone, to elicit focus in different positions and to elicit phrasing and phrase boundaries. Six of the 47 read sentences were chosen for analysis here. The sentences are transcribed on the following page using the transcription convention for the tonal dialect. Sentences 1 and 2 contain only words with a low lexical tone while sentences 3 and 4 contain only words with a high lexical tone. Sentences 2 and 4 differ from 1 and 3 only in that they end with an additional color adjective following the noun (red and black respectively). Sentences 2 and 4 were designed to elicit focal accent on the final word. Sentences 5 and 6 convey a listing of three nouns (animals). The nouns all have high lexical tone in sentence 5 and low lexical tone in sentence 6. There were 9 non-tonal speakers (2 women and 7 men) and 10 tonal speakers (6 women and 4 men) included in the study. The speakers ranged in ages from 14 to 72.

Plots for sentences 5 and 6 showing the F0 measurement points in normalized semitones are shown in Figure 2 for both the non-tonal and tonal dialects. Alignment is from the end of the sentences. Both dialects show a similar intonation pattern exhibiting rise-fall excursions on each of the three nouns comprising the listing of the three animals in each sentence. In the listing of animals, there is a large difference in the F0 maximum between the final word of sentence 5 and sentence 6 in the non-tonal dialect (upper figure). The word “badger” in sentence 6 is spoken with a much higher F0 maximum than the word “chicken” in sentence 5, and also higher than the final words in sentences 1-4. For the tonal dialect, the nouns in sentence 5 have high tone, while those in sentence 6 have low tone. A comparison of the F0 maximum of the nouns in the three positions for the tonal dialect (bottom figure) shows that the F0 maximum for the low tone (sentence 6) is indeed lower than the high tone (sentence 5) in the first and second position but actually higher in the third, final position than the high tone (single factor ANOVA, p<0.05).

An explanation for this in terms of epistemic meaning is the fact that the word “badger” is semantically marked and unexpected compared to the other common farm animals in the list. It is quite natural in Kammu farming culture to have a buffalo, a pig, a chicken, a horse and a cat, but not a badger! Some of the speakers even asked to confirm what the word was, and therefore it is not surprising if the word often elicited additional speaker engagement resulting in a higher F0. This extra engagement also shows up in the tonal speakers’ versions of “badger” raising the low lexical tone to a higher F0 maximum than the word “chicken” in sentence 5 which has high lexical tone. Here, speaker engagement conveying epistemic meaning is seen to override the tonal constraint, although not completely as the overall pitch range is still restricted compared to the non-tonal dialect. Our efforts to control for lexical tone did not extend to full semantic acceptability for the speakers, and thus the meaning of the speech material itself led to revealing interesting interactions of semantics, intonation and phrase-finality in both non-tonal and tonal dialects.
References


1) nàa wèt hmràŋ
   (she bought a horse)

2) nàa wèt hmràŋ yìm
   (she bought a red horse)

3) téék phàán tráak
   (Téék killed a buffalo)

4) téék phàán tráak yìaŋ
   (Téék killed a black buffalo)

5) Ò åh tráak, åh sìaŋ, åh hyíar
   (I have a buffalo, a pig and a chicken)

6) Ò åh hmràŋ, åh mèw, åh prúul
   (I have a horse, a cat and a badger)

Figure 1: Transcriptions of the six test sentences using the transcription convention from the tonal dialect

Figure 2: Normalized F0 measurement points for sentences 5-6 from the non-tonal dialect (above) and the tonal dialect (below). Lexical tone in parenthesis refers to the tonal dialect.