1. Introduction
What is the interaction of tone and prominence in Akan? Does sentence-level pragmatic meanings affect the tonal structure of a phrase in Akan?

Experiment 1: Influence of focus and givenness on tonal realization.
Experiment 2: Interaction of focus and downstep.

2. Background
Akan belongs to the Kwa branch of the Niger–Kongo family spoken by 5 mio. people in Ghana. [1]

Akan is a terraced register tone language with two tonal oppositions, Low (L) and High (H). [2]

Focus in Akan is marked either morphologically, focus marker nà, and/or syntactically, ex-situ, phrase-initial focus position. [1]

Ex-situ focus is tonally marked: H→H/L→H. [3]

In-situ focus is not marked morphosyntactically.

Downstep occurs either automatic (a) or non-automatic (n) (floating L tone). [4]

H – L – H ➔ (a) H – L – IH
(n) H – H (L) – IH

3. Data Elicitation
Recordings in January 2009 in Accra at the University of Ghana.

11 native speakers of Asante Twi (6 female, 5 male students).

Question-answer pairs where questions were presented both auditorily and visually.

4. Measurements & Statistics

Tonal contour: 10 points [Hz] in each sonorant element of the target word.

Tones: Mid point of TBU in semitones.

Pitch change between conditions: Δc

T-tests with speakers as random factor.

5.1 Speech materials Experiment 1:

• Factor 1: Tone

L: Àgyeman bóàà Addò ánɔpà yi. Àgyeman helped Addo this morning.
H: Anúm tôó amango ánɔpà yi. Anum bought mango this morning.

• Factor 2: Information structure

Baseline: Broad focus

Target word in narrow focus:

Whom did Agyeman help this morning?
Àgyeman helped Addo this morning.

Target word in contrastive focus:

Did Agyeman help Anum this morning?
Àgyeman helped Addo this morning.

Target word pre-focus:

Did Agyeman help Addo yesterday?
Àgyeman helped Addo [ánɔpà yi].

Target word post-focus:

Did Agyeman beat Addo this morning?
Àgyeman helped Anum this morning.

6. Results Exp. 1, Factor 2 (information structure)

Gradual decrease in pitch height with increasing prosodic prominence: H-tone lowering
Similar but smaller effect for L-tone
Post-focus lowering
No pre-focus lowering
Similar but smaller effect for L-tone

6.2 Results Exp. 1, Factor 3 (in-situ vs. ex-situ focus)

Significant F0-lowering due to focus in both syntactic constructions.
Significant higher pitch register in ex-situ construction due to position.
Similar effect for L-tone.

7. Results Exp. 2

• Tone lowering due to focus (cf. Exp. 1).
• No blocking of DS due to focus (same amount of downstep).
• Same amount of DS irrespective of DS trigger (a) vs (n)). [5]

8. Conclusions

Against well established effect of expansion of F0 due to focus we show that sentence-level pragmatic meaning of contrastive focus causes significant F0-lowering of H and L tones.

Creation of new, lower pitch register after focus which significantly affects post-focus tonal target.

Downstep occurs independent of sentence-level pragmatic influences.

References:


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