

Tone and syllable structure in Akebu Polar Questions

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Intro

This paper presents an analysis of tone (pitch) in polar questions in Akebu language ([keu], GTM, Kwa, Niger-Congo). Since Bolinger (1978), Ohala (1984) final high-pitched polar question prosody was often considered (almost) universal. In recent works (Rialland 2007, Clements & Rialland 2008) it was shown that the significant number of African languages also have falling final pitch in polar questions. Rialland (2011) has further introduced a cluster of various “lax prosody” utterance-final pitch effects. Akebu demonstrates a subset of these effects. Note that in Akebu the change in pitch in the final syllable of an utterance is the only difference between a statement and a polar question. In this talk I show that polar question tonal change effects in Akebu are closely tied up to the structure of a syllable and features of a vowel. Basing on systematic acoustic analysis of a few native speakers, I argue that at some level of representation there is only one tonal marker of a polar question in Akebu, namely H tone with a preceding downgrade ([↓]H).

Data

Akebu distinguishes three level tones: high, mid, and low. Contour tones do not occur on vowels with [-ATR] feature. Contour tones are solely bitonal. The tone-bearing unit is the syllable. The structure of a syllable is (C)V(N).

The H tone vowel in an open final syllable is prolonged (1, 3). The sonorant in coda, if present, takes pitch (2), but not in syllables with [-ATR] vowels (4).

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|-----|----|----------------------------|----|----------------------------|
| (1) | a. | l̄ə fé. | b. | l̄ə féé? |
| | | PRF.3SG buy | | PRF.3SG buy.Q |
| | | 'She has bought.' | | 'Has she bought?' |
| (2) | a. | l̄ə náŋ. | b. | l̄ə náŋ? |
| | | PRF.3SG wash.hands | | PRF.3SG wash.hands.Q |
| | | 'He has washed her hands.' | | 'Has he washed his hands?' |
| (3) | a. | l̄ə cí. | b. | l̄ə cíí? |
| | | PRF.3SG be.sick | | PRF.3SG be.sick.Q |
| | | 'He was sick.' | | 'Was he sick?' |
| (4) | a. | l̄ə mój. | b. | l̄ə mój? |
| | | PRF.3SG count | | PRF.3SG count.Q |
| | | 'She has counted.' | | 'Has she counted?' |

The M and L final tones in open syllables both adjust a downgrade in questions (6), while in closed syllables with [+ATR] vowels the pitch raise on the coda (7).

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|-----|----|---------------------|----|---------------------------|
| (5) | a. | l̄ə kp̄ì. | b. | l̄ə kp̄ì [↓] ? |
| | | PRF.3SG boil | | PRF.3SG boil.Q |
| | | 'It has boiled.' | | 'It has boiled?' |
| (6) | a. | l̄ó p̄ǎl̄ə. | b. | l̄ó p̄ǎl̄ə [↓] ? |
| | | PRF.3SG moulder | | PRF.3SG moulder.Q |
| | | 'It has mouldered.' | | 'Has it mouldered?' |
| (7) | a. | l̄ə f̄aŋ. | b. | l̄á f̄aŋ? |
| | | PRF.3SG believe | | PRF.3SG believe.Q |
| | | 'She has believed.' | | 'Has she believed?' |

Both falling and rising contour tones shows no change (8, 9). Optional register change is possible but not obligatory with all contour tones (cf. Patin (2008) where similar effects were reported for Shingazidja). Contour tones in the syllables with coda are not attested.

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|-----|----|---|----|--|
| (8) | a. | lā p̃. | b. | lā p̃ʔ |
| | | PRF.3SG understand
'She has understood.' | | PRF.3SG asked.Q
'Has she understood?' |
| (9) | a. | lā j̃. | b. | lā j̃ʔ |
| | | PRF.3SG yawn
'He has yawned.' | | PRF.3SG yawn.Q
'Has he yawned?' |

Analysis

I argue that in Akebu the question marker is adjusted to the end of the tonal tier and causes realignment. The tones are aligned with the left edge of a prosodic word. Every syllable takes at most two level tones. To account for the discussed data I propose the following set of constraints:

MAX-T: Input tones are realized in the output (i.e. no deletion).

*CODA-T: Coda should be toneless.

*IDENT_[+ATR]: Do not lengthen vowels with [+ATR] feature

*IDENT_[-ATR]: Do not lengthen vowels with [-ATR] feature

The hierarchy of constraints is as follows:

IDENT_[+ATR] >> MAX-T >> *CODA-T >> IDENT_[-ATR]

References

- DWIGHT BOLINGER. 1978. Intonation accross languages. *Universals of Human Language*, G. Greenberg (ed.), Stanford: Stanford University Press, pp. 371-425.
- GEORGE N. CLEMENTS & ANNIE RIALLAND. 2008. Africa as a phonological area. *Africa as a linguistic area*, B. Heine (ed.). Cambridge: Cambridge University Press.
- JOHN OHALA. 1984. Cross-language use of pitch: an ethological view. *Phonetica* 40, pp. 1-18.
- CEDRIC PATIN. 2008. Focus and Phrasing in Shingazidja. *Papers in Phonetics and Phonology, ZAS papers in Linguistics 49*, Marzena Zygis & Susanne Fuchs (eds.), pp. 167-189.
- ANNIE RIALLAND. 2007. Question prosody : an African perspective. *Tones and Tunes: Studies in Word and Sentence Prosody*, C. Gussenhoven and T. Riad (eds.), Mouton de Gruyter, Berlin, pp. 55-62.
- ANNIE RIALLAND. 2011. The African “lax” question prosody: an update. Presentation at *Conference in phonetics and phonology NINJAL*, Kyoto, Japan.