

Yes/no question prosody in Mefegbe (Tɔŋugbe) Ewe

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In question prosody research, high-pitched, rising intonation has long been considered a strong cross-linguistic universal (e.g., Bolinger 1978; Ohala 1983, 1984). This pattern has been attributed to the frequency code (Gussenhoven 2004) and is corroborated by evidence from Chinese tone languages (see review in Chen 2022). However, this view is challenged by lax question prosody, a regional feature observed in many African languages, where a different set of features are used to encode questions: falling pitch, vocalic lengthening, breathy termination and sentence-final open vowel (Rialland 2009; Downing & Rialland 2017). While Rialland (2007) distinguishes lax prosody from tense prosody (high-pitched markers), a handful of African languages exhibit features from both (Cahill 2012, 2013; Salffner 2017).

This study examines yes/no questions in Mefegbe (Tɔŋugbe), a variety of Ewe (Kwa, Niger-Congo) spoken in Ghana. Using a semi-controlled experimental design, we investigate if, and how, Mefegbe utilizes lax prosody. Acoustic and statistical analyses of the speech data collected through an interactive game (26 speakers; 1,324 yes/no questions, 1,329 statements) reveals that in the final rhyme of the utterance, questions are distinguished from statements by various features: rising f₀ contour, larger f₀ range, higher f₀ mean, higher intensity, and increased breathiness. While some of these features align with the predictions of lax prosody, others do not. Mefegbe therefore does not present a clear case of lax prosody. These findings highlight interesting issues for discussion. First, the rising pattern is observed across all tested final lexical tone conditions (H, M, L). This echoes findings from Cantonese and Mandarin (Yuan 2004; Ma et al. 2011; Xu & Mok 2011; Chen 2022), showing that Mefegbe shares similarities with Chinese tone languages in how yes/no questions are prosodically marked. Furthermore, the mixed set of features employed by Ewe bears resemblance to Ikaan, which, as discussed by Salffner (2017), invites reconsideration of lax prosody analysis, in relation to the frequency code.

References

- Bolinger, D. (1978). Intonation across languages. In: Greenberg, J. (Ed.), *Universals of Human Language*. Stanford University Press, Stanford, pp. 371–425.
- Cahill, M. (2012). Polar question intonation in Konni. In *Selected Proceedings of the 42nd Annual Conference on African Linguistics*: 90–98.
- Cahill, M. (2013). Polar question intonation in five Ghanaian languages. In *LSA Annual Meeting Extended Abstracts* (Vol. 4): 10–1.
- Chen, Y. (2022). Mind the subtle f₀ modifications: The interaction of tone and intonation in Sinitic varieties. *Stellenbosch Papers in Linguistics Plus* 62(2), 113–136. DOI: <https://doi.org/10.5842/62-2-904>
- Downing, L. J. & Rialland, A. (eds.). (2017). *Intonation in African tone languages*. Berlin ; Boston: De Gruyter Mouton.
- Gussenhoven, C. (2004). *The Phonology of Tone and Intonation*. Cambridge: Cambridge University Press.
- Ma, J. K-Y., Ciocca, V. and Whitehill, T. (2011). The perception of intonation questions and statements in Cantonese. *The Journal of the Acoustical Society of America* 129: 1012–1023. <https://doi.org/10.1121/1.3531840>
- Ohala, J. (1983). Cross-language use of pitch: an ethological view. *Phonetica*, 40, 1–18.
- Ohala, J. (1984). An ethological perspective on common cross-language utilization of F₀ in voice. *Phonetica* 41, 1–16.
- Rialland, A. (2007). Question prosody: an African perspective. *Tones and tunes*, 1, 35–64.
- Rialland, A. (2009). The African lax question prosody: Its realisation and geographical distribution. *Lingua* 119(6). 928–949. DOI: <https://doi.org/10.1016/j.lingua.2007.09.014>
- Salffner, S. (2017). West African languages enrich the frequency code: Multi-functional pitch and multi-dimensional prosody in Ikaan polar questions. *Laboratory Phonology* 8(1).
- Xu, B. & Mok, P. (2011). Final rising and global raising in Cantonese intonation. *Proceedings of the 17th International Congress of Phonetic Sciences*: 2173–2176.