

Prosody of Mandarin sentence-final particles in spontaneous conversational corpus

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Sentence-final particles in Mandarin fulfil versatile communicative functions. Previous research has noted their interaction with sentence intonation (Liu & Xu, 2005), yet the prosody of the particles themselves remains underexplored. Both tonal and intonational factors are relevant: as neutral-tone syllables, their pitch is expected to depend on the preceding lexical tone (Chao, 1968); however, their crucial roles in signalling clause type or speech act suggest that intonation and discourse may also shape their realisations (Hsu & Xu, 2020).

This study investigates the prosody of two Mandarin sentence-final particles, *ma* (吗/嘛) and *ba* (吧), using the MAGICDATA Mandarin Chinese Conversational Speech Corpus (Yang et al., 2022), which comprises about 180 hours of spontaneous conversation from 663 speakers. Recordings were force-aligned with provided transcripts using the Montreal Forced Aligner (McAuliffe et al., 2017), and we focus on the particles that appear at a clause-final position, followed by either a question mark or a period. We tested the effects of preceding tone, clause type (punctuation), and turn position (final or not) on their average pitch. Preliminary results indicate that *ma* has a higher average pitch than *ba*. Preceding tone significantly affects pitch, though the observed patterns deviate from predictions of canonical neutral-tone realisation. By contrast, neither clause type nor turn position showed a robust effect.

Future work will incorporate large language models to refine contextual interpretation, given the inconsistent use of punctuation in the provided transcripts. We also highlight methodological challenges in adapting such large spontaneous corpora for phonetic research, and discuss processing steps that may improve the robustness of prosodic measurements.

References

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