Intonation Mapped Directly from Lexical Tones

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Abstract

The goal of this article is twofold. One is to examine the interaction between tone and intonation based on Hakka, one of the Chinese languages. The other is to test how far can ToBI (Tones and Break Indices) account for the intonation patterns of Hakka. In the Chinese literature, three models of intonation were proposed, each empirically supported in some studies. The first one proposed that intonation came up with the accumulation of each level of tonal pitches (Chao 1932). The second one claimed that there were barely 3 fixed intonation patterns for different sentences (Shen 1989). The third model suggested that the intonation of Chinese be subject to the end lexical tones (Chao 1968). With the advent of ToBI, certain types of intonation models were proposed for Pan Mandarin (Pan et al, 2004) and Cantonese (Wong et al. 2004), respectively.

The present research was based on a mini-corpus of 2500 utterances collected from authentic conversation in two varieties of Hakka, Hailu and Sixian, the former having 7 and the latter 6 citation tones. My analysis was done with a script of the PRAAT.

The findings are rather interesting. First of all, most of the intonation patterns are directly mapped from the variation of lexical tones. Little information other than lexical tones can be singled out in terms of F0, no matter what sentences they are, e.g. statements, interrogatives (yes-no, Wh-, or tag questions), or exclamation. It is hence argued that no prosodic hierarchy (lexicon, foot, sense group or IP (intonation phrase)) nor stress plays any role in Hakka intonation. Secondly, down stepping occurs quite naturally in authentic utterances, which signifies intonational properties of Hakka prosody. In addition, it was shown that, as a model of intonation, the ToBI framework works well enough, if modified to a certain extent. For the Hakka intonation patterns, the number of tiers is more or less the same as the one proposed for Cantonese (Wong et al, 2004).

Keywords: Hakka intonation, ToBI, tone, phonetic pitch