Tone Change in Taiwanese: Age and Geographic Factors

Traditionally, there were eight tonal contrasts in Taiwanese. It was reported that tone 2 had merged with tone 6. Therefore, there are only seven tones at present. Among the Taiwanese tones, tone 5 is widely described as a low rising tone (12). However, some scholars such as Ong (1993) have pointed out that tone 5 is a low falling-rising tone (212). Tone 4 and tone 8 have recently been reported that they are merging together. The purpose of this study is to provide a systematic account with regard to the change in Taiwanese tone 1, tone 4, and tone 8, based on acoustic measurements of tone values.

This analysis is based on data collected from 30 Taiwanese speakers from different regions of Taiwan. Subjects were asked to read Taiwanese lexical items written in Han characters. The subjects were tape recorded and at a later time subjects' responses were played into a computer digitized by the CECIL software/hardware speech analysis package (JAARS, Waxhaw, NC). Once digitized, further analysis was undertaken using MS-EXCEL. In this research I developed the following parameters as criteria to measure the trajectory differences among tonal values: (1) Angle of Tone (AOT), (2) Ratio of Tone (ROT), Beginning of Tone (BOT), and Duration of Tone (DOT).

The results of univariate ANOVA tests suggest that tone 5 is experiencing a diachronic change from low rising (older generations) to falling-rising (younger generations), as well as a synchronic change, which is contributed by geographic differences. As for tone 4 and tone 8, age and resident place are crucial factors that contribute to their change. In general, tone 4 and tone 8 are merging together among the younger generations (age under 50). Geographically, the distinction between tone 4 and tone 8 is preserved in the southern area of Taiwan. These changes in tone 5, tone 4, and tone 8 might be the results of language contacts between Taiwanese and Mandarin Chinese since 1945, in which year Chinese KMT occupied Taiwan and imported Mandarin as the official language of Taiwan.
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