

## **The mechanism of tone-melody match for tone preservation in Cantonese songs (Cheung, Kwan Hin, Hong Kong Polytechnic University)**

Cantonese stands out from other cited tone languages in that the lexical tones in the language, six in all, are preserved in singing. Linguists owe this intriguing phenomenon an explicit description or, better still, explanation of its working.

Chan (1987) pioneered a hypothesis that the 6 tones be grouped into 4 categories by virtue of the end point (pitch-height) of the tones, with tone-melody match sensitive to these 4 categories rather than the 6 tones. Cheung (2007) made use of a larger lyrics corpus to support this hypothesis and further pointed out that within a melody-matching category, a rising tone is distinguished from its level partner by having the singer add a lower grace note to the note intended for the tune. These two works together stopped short of spelling out the very mechanism that enables the matching of 4 tonal categories (with a default pitch range of approximately a perfect fifth) with a full song which may have a pitch range of an octave at least and a multiple of that at times.

In the daily use of lexical tones, both the entire pitch range and the pitch level gradations are elastic. Thus, in Chao's 5-point system behind his tone letters, the interval between 1 and 5 may be compressed or widened. So are the intervals between any two levels out of 1, 2, 3, 4 and 5.

Then, in the daily use of lexical tones, the pitch range as marked by the width 1 to 5 in Chao's 5-point system is transposable. For example, it may be the range  $G^3$  to  $D^4$  at one instance but  $D^4$  to  $A^5$  at another instance (with tone elasticity suppressed for the moment). One is certainly aware that there are gender differences, but different persons of the same gender and even the same speaker in different contexts may also exhibit such variation in terms of absolute pitch.

These two universal characteristics of lexical tones sound commonplace but are the gist of the answer to the intriguing question why Cantonese tones can be considered preserved in singing, or in more technical terms how can a 4-term system of melody matching "tones" be matched to an array of a much wider range of musical notes with the tones still held to be identifiable by native speakers.

A number of songs are used for demonstration, ranging from the very simple Birthday Song to the very sophisticated Cantonese song par excellence the theme song of *The Flower Princess* (帝女花之香夭).