The Historical Evolution of Chinese Tones and Their Splitting and Merger in Contemporary Dialects: The Interaction between Phonation, Duration and Pitch

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Abstract

The concept of phonation is widely used in registral and tonal language analysis of Southeast Asia languages and is coming to be used more in the study of Chinese. This dissertation attempts to identify the role of phonation in tonal evolution in historical Chinese and Chinese dialects, and to find out how the dimensions of phonation and pitch are correlated and interact in concrete tonal evolution problems.

First, a tonal data pool of 57 typical registral-tonal southern dialects is established. Five dimensions — tonal category, pitch contour, register, pitch value and duration — are digitalized and considered together as the main factors influencing the configuration of tonal structure. With the help of this data pool, we can observe more closely and directly how linguistic targets of different dimensions support, enhance, or compete with each other, or how they establish historical relations backwards. They provide us with the typological knowledge of correlation between the five dimensions and further support our historical reconstructions.

Based on these registral-tonal southern dialects, we identify five tonal evolution patterns driven from different phonation backgrounds. Cixi 慈溪 pattern is driven purely by phonation conditions. Wenzhou 溫州 pattern shows how a pure slack phonation background, in

association with high-pitched or tense/ falsetto conditions, can provide circumstances for transference of sonorant-initial syllables from *Yáng* 陽 tones (B tones) to *Yīn* 陰 tones (A tones); this is almost the very type we hope to find to support the historical *Zhuóshǎng Biàn Qù* 濁上變去 problem. The remaining three types are different stages on a continuum of the degree of muddiness of a mixture of slack phonation and model-voiced phonation. We see that the pattern and the degree of activity of tonal switch, merger and splitting are highly relevant to the degree of complicity and the intensity of the muddiness of the phonation background. The relevant tones exchange syllables by different types of initials in a bundled and complementary way. We also find that mergers and splitting are more active at the higher pitch range.

The solving of the historical problem of *Zhuóshǎng Biàn Qù* 濁上變去 gives us a good example of how factors of phonation and pitch correlate and cooperate to promote a complicated tonal evolution. The whole problem is divided into two separated parts: First, the switch and merger of tone2b-s to tone2a; second, the merger of tone2b-o to tone3. Every part is further divided into several steps. Every step shows the conflict of different phonation types within a single syllable, or competition of linguistic targets of different dimensions for the tonal distinctive feature, or multi-variations caused by complicated phonations and extreme pitch heights.

Taking all the typological, phonological and historical aspects together, we argue that for registral-tonal languages like Early Middle Chinese and Chinese dialects (southern Wu 吳, southern Xiang 湘 and northern Gan 贛), the tonal structure should be understood from a multi-dimensional perspective. Moreover, the cause of many instances of tonal evolution can be traced back to the origin of the interactive and correlative relationships between pitch and phonation.