

How dipping-tones evolve: a case study of Jìn Chinese

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Abstract

This paper, includes a sample of 22 cases of Lǔliáng Jìn Chinese dialects, reveals that there are five types of dipping tones in Lǔliáng. Thirteen cases exhibit a three-dipping-tone contrast, while nine cases demonstrate a two-dipping-tone contrast. The most common dipping-tone contrastive pattern is “low-dipping vs. back-dipping vs. mid-short low-dipping”. The two long dipping tones, T1a and T2, are neutralizing into one dipping tone, forming the two-dipping-tone contrast. The T4bs are lengthening from mid-short to long and raising the tonal head from low-dipping to back-dipping tone.

Keywords: Jìn Chinese, dipping tones, multi-dipping-tone system, tonal evolution

Introduction

A dipping tone has a falling-rising contour. The most familiar case is Shǎngshēng in Běijīng Mandarin, which is transcribed as [214] using Chao tone letters. The tonal value numbers indicate their falling-rising contours and different heights. Dipping tones appear in a number of Chinese dialects. Zhu et al. (2012) first classified seven types of dipping tones under the framework of the “multi-register and four-level” tonal model, and provided a sketch map of the evolution of dipping tones. The low-dipping tone is commonly used in Chinese dialects. The Shǎngshēng [214] in Běijīng Mandarin has a low-dipping contour. Zhu (2018) exhibited a more comprehensive evolutionary network of dipping tones, which is a low-dipping-tone-centered network. A low-dipping tone can evolve to a back-dipping tone by raising its tonal head. If the turning point of a low-dipping tone moves forward, it can become a front-dipping tone. If the turning point is lowered, a low-dipping tone can become a creaky dipping tone. When the duration of a low-dipping tone is prolonged, it can evolve to a double circumflex tone with a falling-rising-falling contour.

Jìn is a variety of Chinese spoken in Shānxī province (山西省) (Hou, Wen 1993). The Lǔliáng dialect is a sub-dialect of Jìn. This study, by analyzing 22 cases of Lǔliáng dialects, finds that there are three dipping tones in a six-tone system, and two dipping tones in a five-tone system. In the following sections, we offer insight into the types of dipping tones in Lǔliáng, and explain how dipping tones in Lǔliáng are evolving.

Data analyses

This study, conducted on a sample of 22 cases of Lǔliáng dialects, reveals that 13 cases exhibit a three-dipping-tone contrast, while nine cases demonstrate a two-dipping-tone contrast. In the following sub-sections, we first illustrate the two common contrastive patterns of three-dipping-tone systems. Next, we focus on the two-dipping-tone systems, which develop from the merger of T1a and T2. Afterwards, we concentrate on T4b, which has a tendency to evolve from a low-dipping tone to a back-dipping tone. We also demonstrate two special cases, which indicate two possible routes of the evolution of Lǔliáng dipping tones. Finally, we summarize the contrastive patterns of dipping tones in our Lǔliáng dialect corpus and their evolutionary routes.

Contrastive tone patterns

There are nine speakers maintaining a “low-dipping vs. back-dipping vs. mid-short low-dipping” contrastive pattern (pattern A). This is the most common dipping-tone contrastive pattern in Lǔliáng dialects. There are three cases displaying a “low-dipping vs. back-dipping vs. mid-short back-dipping” contrastive pattern (pattern B). In patterns A and B, T1a and T2 are long tones. T1as are low-dipping, and T2s are back-dipping. However, T4b is a mid-short low-dipping tone in pattern A and a mid-short back-dipping tone in pattern B. The figure below shows the tonal curves from the two patterns.

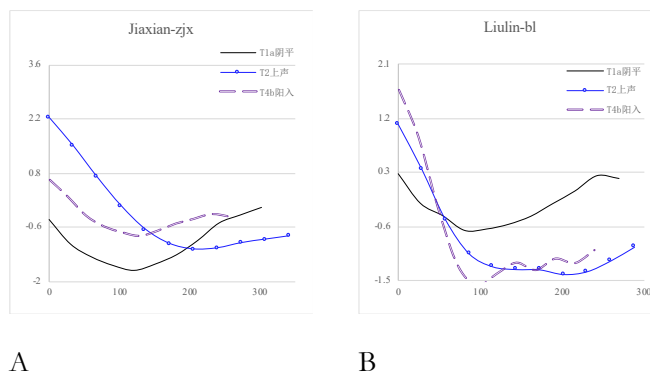


Figure 1.
Contrastive tone patterns A (left) and B (right).

The merger of T1a and T2s

Eight cases show a merged T1a and T2 tone, which can be low-dipping or back-dipping. Five cases have a neutralized back-dipping tone, while three cases have a neutralized low-dipping tone. The T4bs can be a mid-short low-dipping tone, or a mid-short back-dipping tone. Figure 2 shows the tonal curves of two Lǔliáng dialect sites whose T1a and T2 have merged into one dipping tone.

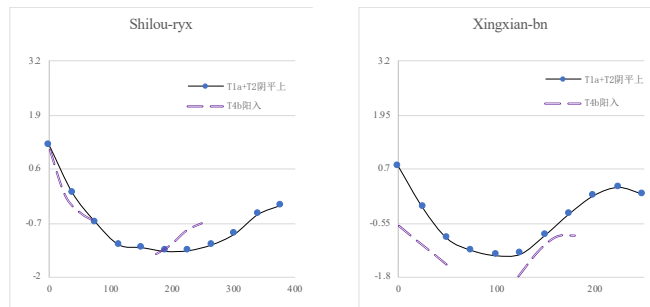


Figure 2. Two sites whose T1a and T2 have merged into one dipping tone.

T4b: from low-dipping to back-dipping

In all the 20 cases we have discussed in the preceding sections, the T4b in thirteen cases (13/20) is a mid-short low-dipping tone; and the T4b in seven cases (7/20) is a mid-short back-dipping tone. Within the 12 cases which maintain a three-dipping-tone contrast, the T4b in nine cases (9/12) is a mid-short low-dipping tone; while the T4b in only three cases (3/12) is a mid-short back-dipping tone. These two facts indicate that the major and basic tonotype of T4b is the mid-short low-dipping type.

In the systems that have gone through a merging of T1a and T2, the T4b exhibits different contours in different tonal systems. If T2 merged into T1a and became a low-dipping tone finally, its T4b is a low-dipping tone as well. However, if T1a merged into T2 and formed a back-dipping tone, its T4b is also a back-dipping tone in most of the cases. From these synchronic variations of T4b in Lǔliáng, we can infer that Lǔliáng T4b is evolving from a low-dipping tone to a back-dipping tone.

Besides the twenty typical cases we have discussed above, the Wúbǔ-lcz and Fényáng-gf cases provide other contrastive possibilities of the dipping tones in Lǔliáng dialect. In the case Fényáng-gf, a “front-dipping vs. back-dipping vs. low-dipping” contrastive pattern has been formed. In the case of Wúbǔ-lcz, T4b prolonged its duration and finally merged into T1a. As a result, in the tonal system of Wúbǔ-lcz, two dipping tones remain.

Discussion

To recapitulate, there are five types of dipping tones in Lǔliáng, including three long dipping tones and two mid-short dipping tones. These five types of dipping tones construct six different kinds of contrasts, as the following Figure 3 shows. The basic pattern is represented by the diagram on the left side marked “A” in Figure 3. In this pattern, the T1a is a low-dipping tone, the T2 is a back-dipping tone, and the T4b is a mid-short low-dipping tone. When the T4b evolves from a mid-short low-dipping tone to a mid-short back-dipping tone, the pattern B1 “low-dipping vs. back-dipping vs. mid-short back-dipping” is formed. Pattern B2

represents the systems whose T1a has merged into T2. Pattern C shows the systems whose T2 has merged into T1a. Patterns D1 and D2 are the cases Fényáng-gf and Wúbǔ-lcz respectively. When the T4b is prolonged from a mid-short low-dipping tone into a long low-dipping tone, one result is that T1a is pushed to become a front-dipping tone, as shown in D1; and the other result is that it merges into T1a, as shown in D2. To have a clearer presentation, we list the corresponding dialect sites of each pattern in the following table.

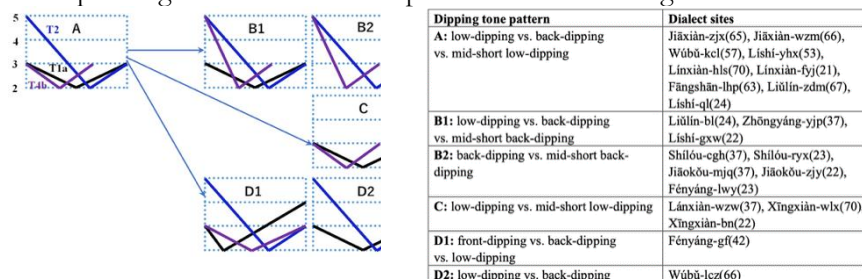


Figure 3. Contrastive patterns and evolutionary routes of dipping tones in Lüliáng.

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