

In Search of Extreme Tone Inventories across Chinese Dialects

ABSTRACT CATEGORY: ORAL/POSTER

0. Introduction

Chinese is considered to consist of numerous dialects (also called as *Sinitic Languages*, Chappell2001). Meanwhile, Chinese is a contour tone language typically differentiated from register tone languages in, say, West Africa (Pike1948). How many tones a Chinese dialect may at most/at least employ? What can we learn from extreme tone inventories across Chinese dialects? Through arduous work, the purpose of this study is to identify the extreme tone inventories in varieties of Chinese, aiming at contributions to tone universal studies.

1. Largest tone inventories across Chinese dialects

Largest inventories are controversial in researchers. According to Zhang (1987) and Bi (1994), Xinxu Cantonese is an 11-tone dialect and Hengxian Pinghua is a 10-tone dialect respectively. But the two dialects were both treated as 12-tone systems later (Tan, 2004; Zee, 2012).

The largest inventory maybe consists of 13 tones so far. Jinxian Gan was reported as 7-tone dialect by Yan (1986, 1988). Bobai Cantonese was rectified from 9-tone to 10-tone dialect around 80 years ago (Wang1931). But they are both labeled under 13-tone system by Cao ed. (2008). Rongxian Cantonese turns out to involve 13 tones definitely in this study while only 9 tones were accepted in past. It is clear that largest tone inventories are usually resulted from aspiration tones.

2. Smallest tone inventories across Chinese dialects

2-tone system, it seems self-evident in logic, is granted as the smallest tone inventory. Actually there are some dialects with 2 tones, e.g. Honggu dialect (Luo, 1999) and Wuwei dialect (Cao ed. 2008). An interesting case is Minqin Chinese which has been reported as 4-, 3- and 2-tone dialect in literature. Our study proposes that Minqin dialect has 2-tone system in the majority while it has 3-tone system as well. It is a rare language with multi tone systems.

Some researchers, however, implausibly claim that a handful of dialects make use of only one tone! Zhang (2003) reported Tianzhu Chinese and Minhe Chinese as 1-tone dialects. Though it sounds absurd, our study turns out Tianzhu Chinese has only one tone (a falling tone with rising onset). Acoustical experiment and statistical analysis were conducted to test the results. We argued that 1-tone languages are essentially different from non-tone languages.

3. Some special tones

Level tones and falling tones are analyzed acoustically in this section, including 4 level tones in Cantonese and Leihua (Lin1995), 4 falling tones in Fuqing Min (Feng1993. Zhu2012 disagreed), 5 falling tones in Gurao dialect, and even 6 falling tones in Chaoyang dialect (Jin & Shi2010).

4. General Discussion

Some methodologies and principles are discussed from extreme tone inventory studies: formal vs. substantial; inter-tone distance vs. intra-tone focalization; pitch range vs. tone inventory size, etc. .

Results indicate: 1) Lots of extreme inventories are controversial. Inventory identification is needed obligatorily under CONSISTENT principles. 2) Both of largest and smallest inventories share characteristic of high variations though differentiating in inter-tone and intra-tone variations. 3) Markedness theory is not always convincing. To some extent contour diversity is negatively related to tone categories. 4) No explicit effects of tone inventory size (i.e. correlation related to segmental inventory size, syllable complexity, population size and climate, etc.) are observed.

5. Conclusion

Study on extreme inventories of Chinese (as an enormous contour tone language), is an important supplement to language universals, and are of much significance to language typology.