A Contour Tone Chain Shift in the Sandhi Tones of Jinhua Wu

Abstract

This study describes speaker variation in the phonological tone change patterns of Jinhua Wu Chinese, one dialect in a region known for particularly complicated tone sandhi systems as well as large regional variation. While the disyllabic sandhi of Beijing Mandarin is reducible, with few exceptions, to one three-part phonological rule:

(1)

Rule	Example	
$T_3 \rightarrow T^{214}/\_\#$	foŋ^{55}ʂwej^{214}	'feng-shui'
$\rightarrow T_2{}^{35}/\_T_3$	ʂwej^{35}kwo^{214}	'fruit'
$\rightarrow T^{21}$/elsewhere	ʂwej^{21}k^{h}u^{51}	'reservoir'

a comparable summary of the sandhi of Jinhua requires almost as many rules as there are combinations of the 7 tone categories. Furthermore, for some combinations, as many as three different patterns are observed, and the source of this lexical variation is largely unknown Cao (2002, p. 111):

(2) $T_5{}^{55}$ $T_2{}^{313}$ →

a. $T^{33}T^{14}$

pu.a	*tɕju.dʑjoŋ*
cloth shoe	bedbug

b. $T^{33}T^{55}$

su.ju	*sje.mɑw*
veggie oil	delicate

c. $T^{55}T^{3}$

t^{h}ja.məŋ	*sje.dʑju*
steel door	snowball

Previous studies of Jinhua tone sandhi have acknowledged speaker differences associated with generation and geography, but these studies made no attempt to systematically document or quantify these differences. This study documents the tone sandhi systems of two generations of Jinhua speakers, finding speaker idiosyncrasies as well as systematic regional and generational differences.

An acoustic analysis was performed on the pitch tracks of 108 disyllabic Jinhua Wu words, representing combinations of the 6 long historical tone categories. The list of words was recorded spoken in a carrier phrase by 15 native speakers from two neighboring locations and two generations. The parameters of each speaker's pitch contours together represent that speaker's sandhi tone system, and the largest dimension of speaker differences is associated with the speakers' ages (Fig. 1). Most of the generational differences can be summarized as a chain shift in the shapes of the disyllabic tone contours. The generational differences in tone contours for the individual words show a circular trend of contour realignment. Rising tones become lower for the younger generation, and falling tones become higher, while high tones drift toward rising contours, and low tones drift towards falling contours. This is exemplified in the archetype tone contours of the two generations (Fig. 2).

Current social conditions may have increased the rate of language change, but the nature of this change does not seem to be associated with any particular feature of the linguistic context nor of the language itself, other having contour tones. This suggests that we might find similar diachronic tone realignment in other languages with contour tones.

References

Cao, Z. (2002). *Nanbu Wuyu yuyin yanjiu [Southern Wu phonology research]*. Beijing: Shangwu Yin Shuguan.

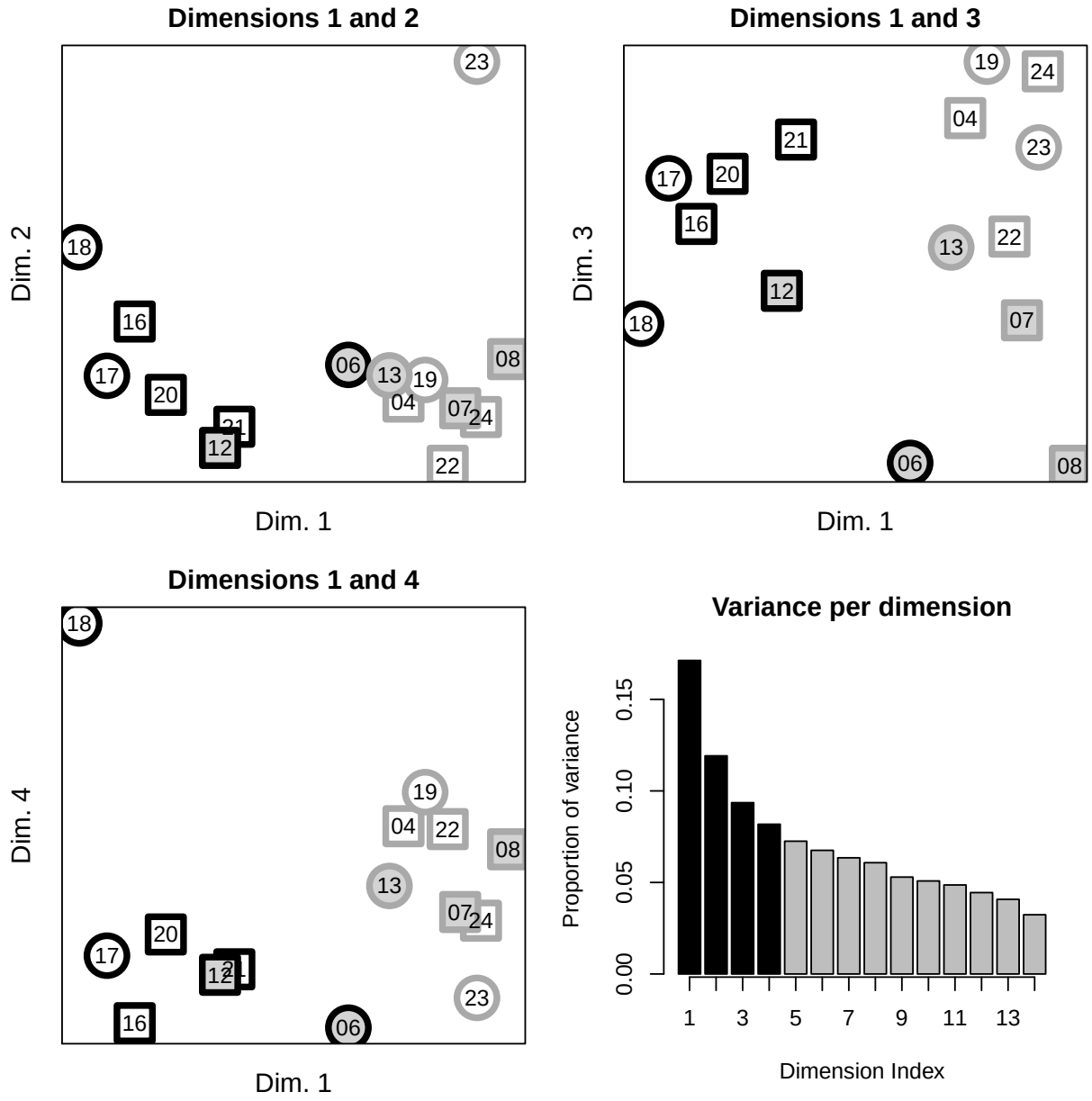

Figure 1: Similarities of speakers' contour systems, represented in an MDS space. Marker shapes indicate men (circles) and women (squares), marker borders indicate older (black) and younger (gray) generations, and marker fill indicates urban Jinhua (white) and Zhuma village (gray) locations. D1 is associated with speaker age, and D3 is associated with speaker location. D2 and D4 indicate that the data from speakers 18 and 23 are anomalous.

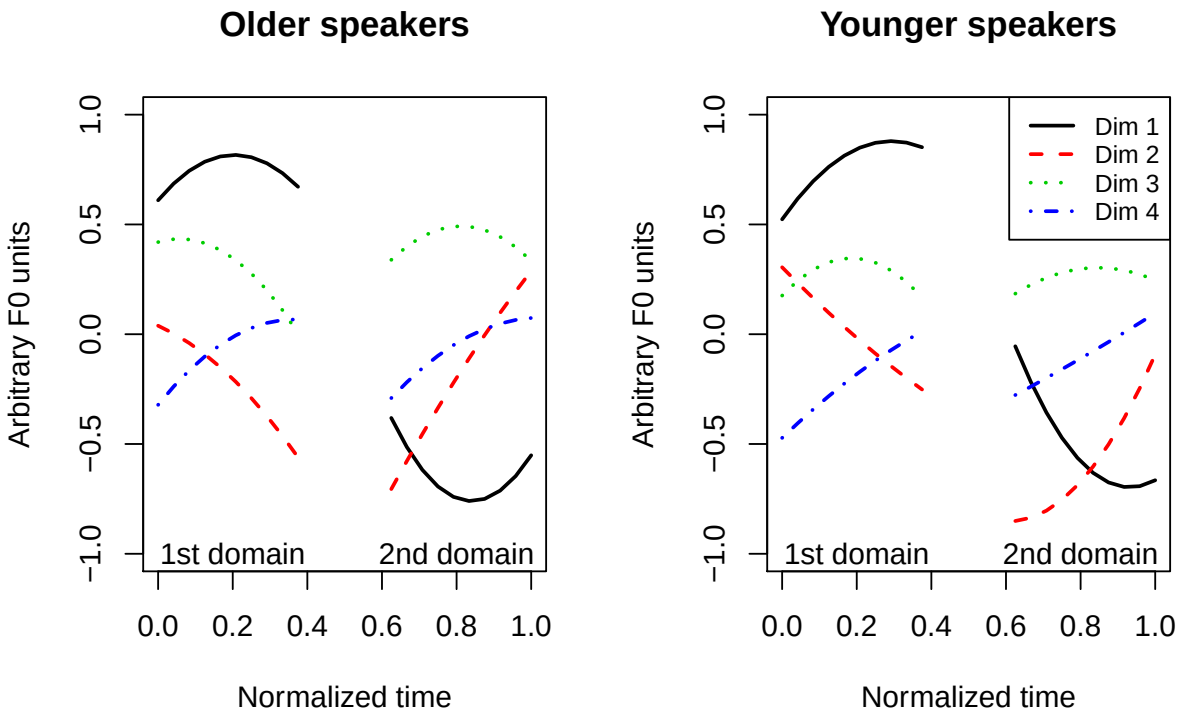

Figure 2: Archetype tone contours for each of the first four principle components of contour variation. For the older speakers (left), D1 corresponds to the pitch height difference of the first and second syllables, and D2 corresponds to fall-rise vs rise-fall sandhi contours. D3 is overall height, and D4 is the amount that the two syllables rise or fall equally. The meaning of the dimensions are slightly different for the younger speakers (right), as if the D1 and D2 contours were temporally shifted.