

## On the Tonal Asymmetry in the Dialects of the Group Wu - An input-based view

The dialects of the group Wu, such as Shanghai, Suchou, Wuxi, Tangxi, are remarkable as to their sandhi behavior. Unlike Mandarin or Tianjin where the stress falls invariably on the last syllable and the preceding syllables are subject to tonal changes, the sandhi in Wu interferes with the syntax: in compound phrases, the first syllable is stressed. The polysyllabic domain keeps the tone of the first syllable, and this tone will realize on the following syllables. In verb phrases, the last syllable is stressed, and the tone of the pretonic syllable reduces to a level tone deductible from the register, or to a predictable level tone.

### (1) Shanghai

- |                                                                                                                                              |                                                                                                                       |
|----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| a. Compound stress: left-dominant<br>[ʼtsɔ̃ vɛ]      “fried rice”<br>MH.BH      base tones<br>MH °      tone deletion<br>M. H      spreading | b. Phrase stress: right-dominant<br>[tsɔ̃ ʼvɛ]      “to fry rice”<br>MH.BM      base tones<br>H. BM      sandhi tones |
|----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|

This asymmetry conditioned by the syntax seems to be more complicated in Wuxi, another Wu dialect. Chan&Ren (1986) report that there are 6 lexical tones in open syllables, namely 52, 213, 313, 131, 34, and 213, classified according to their historical categories. When the first syllable is stressed, there are four tone patterns each of which is assigned one or two lexical tones. However, there is no consensus as to the interpretation of these tone patterns:

### (2)

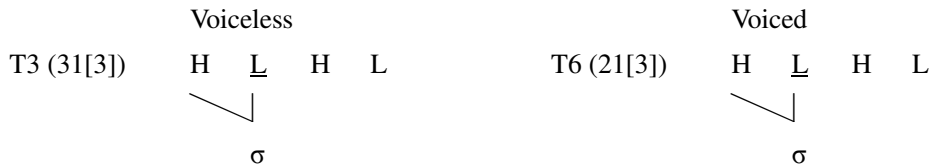
Interpretations of tone patterns	Chan&Ren (1986)	Yip (1989)	Duanmu (1994)	Lexical tones
Patron A	LLH	L(LH)	LH	T3 (313), T6 (213)
Patron B	HHL	(LH)L	LH(L)	T1 (52), T4 (131)
Patron C	LHH	H		T5 (34)
Patron D	LHL	L(HL)	LH(L)	T2 (213)

Yip (1989) assumes that a contour tone may behave as an unit, so the final syllable in the pattern A and the first syllable in the pattern B seem always bear a rising LH tone, and the final syllable in the pattern D seems always bear a falling HL tone. Duanmu (1994), arguing against contour tone units, suggests that initial syllables are all LH in patterns A, B and D, the final L being due to domain-final effect. However, both views fail to explain how lexical tones are assigned to tone patterns, and what is the relation between stress, lexical tone and tone pattern.

The aim of this research is to demonstrate that there are only three lexical tones in Wuxi, which have a direct relation with the four tone patterns. It will be shown that Wuxi tone sandhi is not different from what is observed in left-dominant tone sandhi in Shanghai, i.e. preservation of lexical tone of the first syllable. We argue that both lexical tones and tone patterns are constrained by a *phonological input*, a tonal template HLHL. Following the assumption of a universal tonal periodic skeleton HLHL postulated by Carvalho (2002), analogous to the syllabic skeleton CVCV proposed by Lowenstamm (1996), tones in open syllables in Wuxi can be represented as in (3). Given that the register is conditioned by the laryngeal feature of the onset, there are only three phonological tones:

The vertical line in the representations indicates the tonal head.

a. HL



b. HL



c. LH

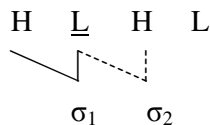


Since the register of each tone is conditioned by the laryngeal features of the onset, we propose to analyze T3 (31[3])/T6 (21[3]) as an underlying falling contour with a low head because of the heaviness of a concave lexical tone. The final H tone in T3/T6 is due to an epenthesis adjacent to the low head.<sup>1</sup> As opposed to the falling contour with a low head, T1 (52)/T4 ([1]31) will be analyzed as an underlying falling contour with a high head, the initial epenthetic L tone in T4 being triggered by the lowering effect of the voiced onset. Finally, T5 (34) and T2 ([2]13) will be analyzed as an underlying rising tone. In such a case, T5/T2 have no lexical head, but contextual heads induced by the allophonic register.

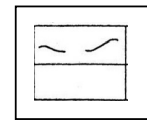
To take the example of a dissyllabic syntagm for the sake of clarity, two general principles (cf. (4)) are proposed to account for the derivation of tonal patterns (cf. (5)):

- (4) a.  $\sigma_2$  associates to the last plain position of the tonal template of  $\sigma_1$  and to the following first empty position.  
 b. Being governed,  $\sigma_2$  cannot have its own tonal head.

(5) a. pattern A : HL. LH (L register), T3 (31[3]) et T6 (21[3])



b.



Chan&Ren (1986)

Whereby T3 (31[3]) and T6 (21[3]) in  $\sigma_1$ , whose tonal head is preserved, are assigned to the same tone pattern. The same holds for T1 (52) and T4 ([1]31), whose tonal head is preserved in the pattern B. T5 and T2 are assigned to different patterns according to their respective allophonic register. That's why there are three lexical tones, but four tonal patterns.

In conclusion, the tone patterns in Wuxi cannot be explained but by the inputs they derive from, viz by lexical tones.

<sup>1</sup> The derived character of complex contour tones is also supported by Mandarin, where the falling-rising tone 213 can be analyzed as an underlying low tone (Yip 2002).