

論文の英文要旨

論文題目	上海語変調の音韻的構造 The Phonological Structure of Shanghai Tone Sandhi
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The aims of this study are to address the problems of two tone sandhi (i.e. ‘broad tone sandhi’ and ‘narrow tone sandhi’) in Shanghai and to propose the phonological structure of Shanghai tone sandhi. A number of phonological studies have analyzed the mechanism of Shanghai tone sandhi (especially broad tone sandhi) in terms of metrical and autosegmental theories. However, they have not resolved problems that a generative approach cannot deal with, and have not addressed how broad and narrow tone sandhi constitute Shanghai tonology (in Chapter 1 and 2, the author reviews previous studies of Shanghai tone sandhi and points out their problems.).

This study tries to resolve three problems of broad and narrow tone sandhi in Shanghai on the basis of acoustic data (in Chapter 3-5), and proposes a new interpretation of the phonological structure of Shanghai tone sandhi (in Chapter 6).

Chapter 3 discusses a distribution of broad tone sandhi variants found in quadrisyllabic words. Broad tone sandhi occurs in a multisyllabic phrase in which pitch

values of the phrase are solely determined by the tone of its initial syllable. When this tone sandhi rule applies to a quadrisyllabic phrase whose initial tone is T5 (*Yangru*), it is reported that two sandhi variants occur that differ in their tonal representations. A number of previous works have interpreted these variants as being in free variation but have not conducted a careful observation of their distribution. The author closely investigates a distribution of the sandhi variants from the perspectives of morpho-syntax and sentence type (i.e. narrative vs. interrogative). The investigation reveals the following three new findings: 1) Three, not two, sandhi variants are attested, 2) there is no distributional difference of the variants between narratives and interrogatives, and 3) two sandhi variants ('Second Association' and '2+2 variant') occur almost only in compounds that consist of two disyllabic nouns ('2+2 compounds'). The third finding clearly indicates that the distribution of the sandhi variants is affected by the morpho-syntactic structure of the phrase. The last part of Chapter 3 discusses the reasons the two sandhi variants occur almost only in 2+2 compounds. The occurrence of a 2+2 variant can be attributed to the difference of foot (or sandhi domain) formation among the morpho-syntactic structures, and Second Association can be explained in terms of the historical relationships among the sandhi variants.

Chapter 4 addresses the problem of a default tone in Shanghai. When broad tone sandhi is applied to a word which has more than three syllables, pitch always falls from a third syllable except for T5 (*Yangru*) sandhi. In order to explain the reason of the pitch fall, previous phonological studies have argued that a default low tone is inserted in the third (and following) syllable(s). But they have not closely discussed whether the default tone is inserted at the phonological or phonetic level (or the interface between them). The author investigates phonetic realizations of pitch falls occurred at trisyllabic and quadrisyllabic words. The result shows that pitch falls asymptotically at all words (i.e. pitch starts to fall abruptly then the speed of pitch falling is gradually reduced). This result indicates that the pitch realization of a default low tone in Shanghai is comparable with those of lexical tones in Mandarin and Shanghai, rather than a neutral tone in Mandarin, and that the default tone could be inserted at the phonological level.

Chapter 5 discusses the status of narrow tone sandhi in Shanghai. Narrow tone sandhi in Shanghai refers to the phenomenon where contour tones change into level tones in constructions such as verb-object, subject-predicate and verb-complement. Previous studies have proposed two competitive interpretations on the status of narrow

tone sandhi. Shi (1995) argues that it belongs to phonetics since the tonal shapes of syllables to which narrow tone sandhi is applied seem to be affected by speech rate. In contrast, Chen (2000) regards narrow tone sandhi as a phonological tonal leveling and a tonal neutralization. However, no consensus exists yet on this issue due to the lack of sufficient instrumental phonetic data concerning narrow tone sandhi. The author investigates how the tones are realized when narrow tone happens at different speech rates. This is done through measuring F0 contours of three smooth tones (i.e. T1: falling tone, T2: high-rising tone, T3: low-rising tone) in short Shanghai carrier sentences at three speech rates produced by seven native Shanghai speakers. The result shows that 1) the faster the speech rate is, the smaller the range of pitch movements becomes, 2) the falling shape of T1 and the rising shape of T3 are preserved regardless of speech rates (despite the reduction in pitch ranges of the contours), and 3) although the tonal shapes of T1 and T2 become relatively similar because of the pitch range reduction, most of the difference between the two pitch values are statistically significant in all speech rates. These findings indicate that narrow tone sandhi is neither a tonal leveling nor a tonal neutralization, and that it applies at the level of phonetics rather than phonology, supporting Shi's (1995) view, rather than Chen's (2000).

Chapter 6 studies the overall structure of Shanghai tone sandhi. From chapter 3 to chapter 5, it was demonstrated that 1) the distribution of broad tone sandhi variants in quadrisyllabic words is affected by morpho-syntactic structure, 2) a default low tone in Shanghai is inserted in the phonological level, and 3) narrow tone sandhi is phonetic pitch reduction which is affected by speech rate rather than phonological contour leveling. These findings show us how broad tone sandhi and narrow tone sandhi construct Shanghai tonology: 1) broad tone sandhi is influenced by morpho-syntax though its sandhi rules basically apply at the phonological level, 2) narrow tone sandhi occurs at the phonetic level, and 3) the two tone sandhi in Shanghai exist independently of each other.