

Tones of Reduced T1-T4 Mandarin Disyllables

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Abstract

The lexical meaning of Chinese words is determined by syllables and lexical tones. Phonologically, there are four full tones. Empirically, however, it remains a puzzle how tones are recognized when they are reduced in natural speech. This article presents three studies on tones of reduced disyllables: (1) a corpus study on disyllabic reduction, (2) two tone categorical identification experiments on fully pronounced and reduced disyllables, and (3) an analysis of word identification responses of two disyllables. Utilizing a segment-aligned corpus, disyllables were classified by ear into four degrees of contraction (from none to full), *i.e.*, where a disyllable is gradually reduced towards one syllable. The results suggested that the onset of the second syllable was most likely to be shortened or deleted. For studying the lexical effect of tones, a Ganong-style word bias experiment was conducted on T1-T4 continua of three T1-T4 disyllables. Results of the fully pronounced stimuli confirmed that the lexical status of the disyllables affected the tone classification of F0 contours along a continuum from T1 to T4, showing distinct differences of tone identification in real words and nonwords. Then, this effect disappeared when the onset of the second syllable was removed to simulate a partly reduced disyllable. Insufficient segmental information seemed to deactivate the word-nonword contrast, *i.e.* lexical status seemed to override any acoustic information available. Tones tended to be recognized as those from a real word throughout the continua. Finally, responses to two T1-T4 disyllables from the identification experiment done by Tseng & Lee (2010) were re-analyzed. The results suggested that reduction degree, F0 shapes, word unit type, and exposure frequency seemed to play a role in the recognition of words and tones.

Keywords: Taiwan Mandarin, Disyllabic Words, Tone Perception, Reduced Speech.

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