Internal Differences of Tones in Shandong Dialect

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INTRODUCTION

Shandong Province (SD) is situated on the eastern coast of China in the lower Huanghe River valley. The SD Peninsula in the east protrudes between the Bohai and Huanghai seas from the land mass and faces the Liaodong Peninsula in the north across the Bohai Straits. SD dialect belongs to the Northern Mandarin and deserves both specific and universal features.

Literature review

I. Classification of SD dialect
☆ Qilu, Zhongyuan and Jiaoliao Mandarin (Li, 1985)
☆ Donglai, Dongwei, Xilu and Xiqi District (Qian, 2001)

II. Tone and tone sandhi patterns
☆ Old and New Mingshui dialect (Gao, 2000)
☆ Leling dialect (Cao, 2007)
☆ Linyi dialect (Cao, 2000)

III. OT analysis
☆ OT analysis of tone sandhi across SD dialects (Zhai, 2009)

Research aim

I. Acoustic analysis of mono-syllabic tonal patterns
☆ Jinan, Zibo, Liaocheng, Tai’an
II. Tonal pattern differences
☆ Internal differences of tonal patterns within SD dialect

METHODOLOGY

Materials
☆ 120 monosyllabic constitutes for each tone, e.g., Tone1, Tone2, Tone3 & Tone4 in Jinan, Zibo, Liaocheng and Tai’an
☆ The constitutes cover all the possible combinations of consonants and vowels in SD dialect

Recording
☆ Two men and two women speakers from Jinan, Zibo, Liaocheng and Tai’an
☆ Recording was conducted in quiet room with the microphone of Sennheiser PC166

Data labeling and extraction
☆ Auto-segmentation software and refinement by hand
☆ Recording was conducted in quiet room with the microphone of Sennheiser PC166
☆ F0 was extracted and one syllable being selected ten points to normalize the duration

TONAL PATTERNS

Jinan dialect

Figure1 Four tones of Jinan dialect

Liaocheng dialect

Figure2 Four tones of Liaocheng dialect

Tai’an dialect

Figure3 Four tones of Tai’an dialect

Zibo dialect

Figure4 Four tones of Zibo dialect