Notice of the Final Oral Examination
for the Degree of Doctor of Philosophy

of

YA LI

MA (University of British Columbia, 2001)
BSc (University of British Columbia, 1998)

“Timing and Melody: An Acoustic Study of Rhythmic Patterns of Chinese Dialects”

Department of Linguistics

Friday, August 21, 2015
10:00AM
Clearihue Building
Room B215

Supervisory Committee:
Dr. Hua Lin, Department of Linguistics, University of Victoria (Supervisor)
Dr. John Esling, Department of Linguistics, UVic (Member)
Dr. Emmanuel Herique, Department of French, UVic (Outside Member)

External Examiner:
Dr. Yue Wang, Department of Linguistics, Simon Fraser University

Chair of Oral Examination:
Dr. Sylvia Pantaleo, Department of Curriculum & Instruction, UVic

Dr. David Capson, Dean, Faculty of Graduate Studies
**Abstract**

Inspired by Lin and Huang’s (2009) rhythmic study of Chinese dialects, this study examines speech rhythm of 21 Chinese dialects from three perspectives, timing, melody, and phonological structure. The 21 dialects belong to four major groups, Mandarin, Wu, Min, and Cantonese, and their respective sub-groups. Nine duration-based and four pitch-based metrics are used to quantify timing and melody, respectively. Four phonological structure-based metrics are used to explore the relationships between syllable or tone structure and timing or melody. All the metrics are paired up according to five categories, duration-only, pitch-only, duration-pitch, duration-syllable, pitch-tone, and each pair is subjected to a correlation analysis. Then timing and melody patterns of the Chinese dialects are determined by correlation patterns of relevant metric pairs.

The main findings of this study are as follows: 1) Timing and melody patterns of the Chinese dialects are far from homogenous across major or sub- groups; 2) No single metric pair is able to quantify speech rhythm consistently for all the Chinese dialects; nonetheless, pitch-only metric pairs generally fare better than duration-only ones; 3) Syllable-timedness and melodiousness are correlated positively for all the major dialectal groups except for Wu; 4) Phonological structure plays little role in shaping timing and melody patterns of the Chinese dialects.

The above findings are both expected and unexpected. They are expected in the sense that it is notoriously difficult for rhythmic metrics to capture all types of variations in speech, so it comes as no surprise that not all of the metrics are successful in quantifying Chinese rhythm either across or within major dialectal groups. The findings are unexpected for the reason that all the metrics are developed based more or less on phonological structure, yet duration-based timing and pitch-based melody patterns of the Chinese dialects are determined more on an individual basis than by their structure affinity or group membership. Overall, as the first study of Chinese rhythmic patterns across multiple dialects and from different perspectives, this study not only lays a methodological foundation for future research but also contributes to our in-depth understanding of Chinese rhythm.