

摘要

本文以吴语瓯江片瑞安方言为研究对象，对瑞安方言的元音系统进行了声学 and 发音生理的研究。全文章节安排如下：

绪论部分介绍了元音研究的基本情况以及国内外对与汉语及其他语言的发音生理研究，并概述了前人对于瑞安方言的研究状况。

第一章简介瑞安的地理人文、行政区划和历史沿革，并描写瑞安方言的音系，包括声母、韵母、声调、连读变调等。

第二章介绍研究方法，包含声学研究和发音生理研究两部分。

第三章描写瑞安方言的元音的声学特点。通过绘制声学元音图，检视瑞安方言元音的声学分布，并对摩擦元音进行了谐噪比的测量。结果发现瑞安的高元音分布密集，除了常见的前高不圆唇[i]、前高圆唇[y]、后高圆唇[u]之外，还有前高唇齿元音[ɥ]与后高唇齿元音[ɰ]，以及舌尖元音[ɿ]。不过，谐噪比分析只发现舌尖元音[ɿ]带有明显的摩擦，而与其他高元音相比，两个唇齿元音[ɥ ɰ]的谐噪比并不显著。

第四章检视瑞安元音的发音生理。超声影像技术采集了瑞安话 12 个单元音的矢状面静态发音图像，并对需要进一步研究的元音采用了平滑样条方差分析 (Smooth Splines ANOVA)。结果显示，与前高圆唇元音[y]相比，唇齿元音[ɥ]的发音舌位偏央；但是，后高唇齿元音[ɰ]与圆唇元音[u]的发音舌位就比较接近，不过，也存在发音人间的变异。

第五章讨论瑞安方言高元音的历时演变，说明了[ɥ u o]和[y ɥ ɿ]的历史来源。

结论部分总结全文，反思不足，展望改进的方向。

关键词：瑞安方言，超声发音研究，摩擦元音，唇齿元音

ABSTRACT

This thesis describes the vowels in the Rui'an dialect, a branch of Oujiang Wu, its acoustics and articulation. The thesis is arranged as follows.

The introduction reviews vowel studies, especially articulatory studies on Chinese and other languages, and previous studies on the Rui'an dialect.

Chapter One presents geographic and historical settings of Rui'an, and gives a phonological description of the Rui'an dialect, including its initials, finals, tones and tone sandhi.

Chapter Two introduces the methodology of the study which consists of an acoustic part and an articulatory part.

Chapter Three describes acoustic properties of the vowels in the Rui'an dialect. The distribution of the vowels was examined in an acoustic F1/F2 vowel plane, and the Harmonics-to-Noise ratio was calculated to evaluate the frication of fricative vowels. Results show that Rui'an vowels are crowded in the high vowel region in the acoustic vowel plane. In addition to high front unrounded [i] and rounded [y], there is a labiodental [ɸ]; in addition to high back [u], there is a labiodental [ɹ], too. While HNR confirmed an accompanying frication for the production of the apical vowel [ɿ], no significant difference in HNR was detected between labiodental and plain high vowels.

Chapter Four examines the articulatory data of Rui'an vowels. The midsagittal tongue images of the 12 monophthongs were collected by ultrasonic imaging technique. And Smooth Splines ANOVAs (SSANOVAs) were applied to vowels for further comparisons. Results show that the front labiodental vowel [ɸ] is produced with a centralized lingual configuration vis-à-vis its high front rounded counterpart [y]. However, although there are interspeaker variations, the back labiodental vowel [ɹ] and its high back rounded counterpart [u] share a similar lingual articulation in general.

Chapter Five discusses diachronic aspects of Rui'an high vowels. Historical sound changes concerning [ɹ u o] and [y ɸ ɿ] are discussed respectively.

The last Chapter summarizes the results and findings. And the limitations of this study and future works are also discussed.

KEY WORDS: the Rui'an dialect, ultrasound study in vowel articulation, fricative vowels, labiodental vowels.