

**A PHONETIC STUDY OF THE
VOWEL SYSTEM IN SUZHOU
CHINESE**

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Abstract

The focus of this dissertation is the articulatory characteristics, acoustic characteristics and articulatory-acoustic relationship of the vowels in Suzhou Chinese. The investigation includes auditory and aerodynamic recording. In the articulatory section, the palatogram, linguagram and articulograph (EMA) are used.

All monophthongs and diphthongs in Suzhou Chinese are investigated to show their formant patterns, temporal structures, lingual gestures and nasality if necessary. New vowel types so-called “fricative vowels”, which have not been well studied by phoneticians, are found in Suzhou Chinese. The acoustic data show that fricative vowels have lower F_2 than other plain vowel counterparts. Compared with the articulatory data, it is found that the lower F_2 cannot be explained by the retraction of constriction as a general relationship between vowel backness and F_2 height. Instead, advancing of constriction results in the lowering of F_2 . Results prove to be compatible with the theory of vowel production, and can also clarify the formant pattern of apical vowels, which have not been well examined in previous study.

To provide an objective criterion for distinguishing monophthongs and diphthongs, a new method is developed in this dissertation to quantify vowel distance. Using this method, the two types of vowels are successfully distinguished. It is also found that two vowels transcribed as [iɪ] and [iʏ] in previous studies are monophthongs.

Table of Contents

Abstract	i
Acknowledgments	iii
Table of Contents	iv
List of Figures	viii
List of Tables	xiv
Chapter 1: Introduction	1
1.1 The background and purpose of this study	1
1.2 Overview of Suzhou Chinese	6
1.2.1 The vowel system of Suzhou Chinese	7
1.2.2 Consonants	8
1.2.3 Tones	9
1.2.4 Syllabic consonants	9
1.2.5 Syllable structure	10
1.3 Old accents and new accents of Suzhou Chinese	10
1.4 The objectives and an outline of the dissertation	11
Chapter 2: Vowels in (C)V syllables	13
2.1 Overview	13
2.2 Acoustic analysis for vowels in (C)V syllables	14
2.2.1 Methodology	14
2.2.1.1 Material	14
2.2.1.2 Informants	15
2.2.1.3 Recording Procedure	15
2.2.1.4 Data analysis and further processing	15
2.2.1.5 HNR analysis	16
2.2.2 Results	16
2.2.2.1 The vowel system	16
2.2.2.2 [i y ɪ ʏ]	19
2.2.2.3 [ɿ ʉ ø u o]	23
2.2.2.4 The remaining three vowels [æ ɛ ɑ]	28
2.2.2.5 Speaker variations and vowel normalization	30
2.3 Articulatory analysis of the vowels in (C)V syllables in Suzhou	39
2.3.1 Methodology	39
2.3.1.1 Material and informants	40
2.3.1.2 EMA analysis	40
2.3.1.3 Linguagraph and palatograph	42
2.3.2 Results	43

2.3.2.1	[i y ɪ ʏ].....	43
2.3.2.2	[ɪ ʏ ø u o].....	47
2.3.2.3	[ɛ æ ɑ].....	49
2.3.3	Articulatory-acoustic relationship for front close vowels [i y ɪ ʏ].....	49
2.3.3.1	An articulatory explanation for F ₂ differences between plain close vowel and fricative vowel.....	50
2.3.3.2	Articulatory explanations for F ₁ and F ₃ differences between the plain front close vowel and fricative vowel in Suzhou.....	54
2.3.3.3	Similar cases in other languages.....	57
2.3.4	Articulatory-acoustic relationship for vowel [u].....	59
2.4	Frication in vowels.....	61
2.5	Apical vowels in different dialects.....	66
2.6	A comparison of the vowel systems in different dialects or languages.....	69
Chapter 3: Vowels in (C)VN and (C)Vʔ syllables		73
3.1	Introduction.....	73
3.2	Acoustic analysis for vowels in (C)VC syllables.....	73
3.2.1	Methodology	73
3.2.1.1	Subjects and Recording Procedure.....	74
3.2.1.2	Analysis and further processing	74
3.2.2	Results.....	75
3.2.2.1	The spectral characteristics of the monophthongs in (C)VN and (C)Vʔ syllables.....	75
3.2.2.2	[ə] of [ən] [əʔ] and monophthong [ɛ]	78
3.2.2.3	[o] of [oŋ] [oʔ] and monophthong [o]	79
3.2.2.4	[a] of [ã] [aʔ] and monophthong [æ]	81
3.2.2.5	[ɑ] of [ã] [ɑʔ] and monophthong [ɑ].....	82
3.3	Articulatory analysis of vowels in (C)VC syllables.....	84
3.3.1	Methodology	84
3.3.2	Results.....	84
3.3.2.1	[ə] of [ən] [əʔ]	84
3.3.2.2	[o] of [oŋ] [oʔ].....	85
3.3.2.3	[a] of [ã] [aʔ]	86
3.3.2.4	[ɑ] of [ã] [ɑʔ].....	88
3.4	Aerodynamic study.....	89
3.4.1	Methodology	89
3.4.2	Results.....	92
3.5	Discussions	94
3.5.1	Speaker variations between the front ‘a’ and back ‘a’.....	94
3.5.2	The differences between vowels in (C)VC syllables and in (C)V syllables.....	98
Chapter 4: Diphthongs in (C)V syllables		100
4.1	Introduction.....	100

4.2	Acoustic analysis for diphthongs in (C)V syllables	101
4.2.1	Methodology	101
4.2.1.1	Material and informants	101
4.2.1.2	A method for calculating change of vowel quality.....	101
4.2.2	Results	107
4.2.2.1	Temporal structure of the diphthongs in Suzhou Chinese	107
4.2.2.2	The rate of change of F ₂ for diphthongs	108
4.2.2.3	The spectral characteristics of the diphthongs.....	110
4.2.2.4	Diphthong [iæ]	113
4.2.2.5	Diphthong [iɑ].....	115
4.2.2.6	Diphthong [iø].....	116
4.2.2.7	Diphthong [uε]	118
4.2.2.8	Diphthong [uɑ]	119
4.2.2.9	Diphthong [uø]	120
4.2.2.10	Diphthong [ou]	121
4.2.2.11	Diphthong [øy]	123
4.3	Articulatory analysis of diphthongs in (C)V syllables	125
4.3.1	Methodology	125
4.3.2	Results	125
4.3.2.1	Diphthong [iæ]	125
4.3.2.2	Diphthong [iɑ].....	126
4.3.2.3	Diphthong [iø].....	127
4.3.2.4	Diphthong [uε]	129
4.3.2.5	Diphthong [uɑ].....	130
4.3.2.6	Diphthong [uø]	131
4.3.2.7	Diphthong [ou]	132
4.3.2.8	Diphthong [øy]	134
4.4	Discussion	135
4.4.1	Boundary between monophthongs and diphthongs.....	135
4.4.2	The difference between elements in diphthongs and monophthongs.....	141
Chapter 5: Diphthongs in (C)VN and (C)V? syllables		143
5.1	Introduction.....	143
5.2	Methodology	143
5.3	Results.....	144
5.3.1	The spectral characteristics of the diphthongs in (C)VN and (C)V? syllables.....	144
5.3.2	A comparison between first elements and the monophthongs in (C)V syllables ...	147
5.3.2.1	The first element [i] in (C)VC syllables	147
5.3.2.2	The first element [u] in (C)VC syllables	154
5.3.2.3	The first element [y] in (C)VC syllables	158
5.3.3	A comparison between second elements and the monophthongs in (C)VN and	

(C)V?	159
5.3.3.1 The second element [ə] in (C)VC syllables	159
5.3.3.2 The second element [o] in (C)VC syllables	166
5.3.3.3 The second element [a] in (C)VC syllables	167
5.3.3.4 The second element [ɑ] in (C)VC syllables	170
5.4 Discussion	173
Chapter 6: Summary and conclusion	175
6.1 The phonetic properties of the vowels in Suzhou Chinese	175
6.2 Articulatory-acoustic relation for the vowels	181
References	183
Appendix I: Formant frequency values (in Hz) for the vowels in Suzhou Chinese	211
Appendix II: Formant frequency values (in Hz) for the diphthongs in Suzhou Chinese	227
Appendix III: Articulatory data (in mm) for the vowels in Suzhou Chinese	267
Appendix IV: Articulatory data (in mm) for the diphthongs in Suzhou Chinese	272

List of Figures

Figure 2-1. The vowel ellipses for the 12 vowels in Suzhou Chinese in F_2/F_1 plane, data from 10 female speakers (left) and 10 male speakers (right).....	18
Figure 2-2. Vowel ellipses in F_2/F_1 plane (left) and in F_1/F_3 plane (right) for [i] [ɪ] [y] [ʏ] in Suzhou Chinese (10 female speakers)	21
Figure 2-3. Vowel ellipses in F_2/F_1 plane (left) and in F_1/F_3 plane (right) for [i] [ɪ] [y] [ʏ] in Suzhou Chinese (data from 10 male speakers)	21
Figure 2-4. Vowel ellipses and data points in F_2/F_1 plane for [ɿ ʊ] (“*”=[ɿ], “+”=[ʊ]) in Suzhou Chinese for female (left) and male (right) speakers.....	24
Figure 2-5. Vowel ellipses for [ø u o] in Suzhou Chinese in F_2/F_1 plane for male (right) and female (left) speakers.....	27
Figure 2-6. The vowel loops for Suzhou Chinese male (small font) and female speakers (large font).....	30
Figure 2-7. The vowel loops of Suzhou Chinese from male (small font) and female speakers (large font) before (left) and after (right) normalization (A. Before normalization; B. uniform normalization; C. non uniform normalization; D. APS normalization)	37
Figure 2-8. Comparison of the regression lines by the three methods. (A. Before normalization; B. uniform normalization; C. non uniform normalization; D. APS normalization)	38
Figure 2-9. An illustration for the receiver sensors (Tongue Tip (TT), Tongue Mid (TM), Tongue Dorsum (TD), and Ref. 1, Ref. 2) attached at different locations during data collection	41
Figure 2-10. a. Photographing the roof of the mouth. The arrows show how (ideally) the view from the camera is directly up into the roof of the mouth (adopted from Ladefoged, 2003); b. an example of palatogram.....	42
Figure 2-11. Palatograms and linguagrams of [i ɪ y ʏ] from two male speakers and two female speakers.....	44
Figure 2-12. The lingual configurations for [i] [ɪ] [y] from three male speakers (Speaker 1, 2, 3). The highest curve is the contour of the palate. The speakers were facing right.....	46
Figure 2-13. The lingual configurations for [ɿ] [ʊ] and [ø] from three male speakers (Speaker 1, 2, 3). The highest curve is the contour of the palate. The speakers were facing right.	47
Figure 2-14. The lingual configurations for [ɛ u o ø] from three male speakers (Speaker 1, 2, 3). The highest curve is the contour of the palate. The speakers were facing right.....	48
Figure 2-15. The lingual configurations for [ɛ æ ɑ] from three male speakers (Speaker 1, 2, 3). The curve is the contour of the palate. The speakers were facing right.	49
Figure 2-16. (a) The resonator configuration approximating the vocal tract for non-low vowels and (b) relations between natural frequencies and the position of the constriction for the configuration of the left acoustic tubes (from Stevens, 1989)	51
Figure 2-17 The lingual configurations for [ɪ i ɿ] from three male speakers (Speaker 1, 2, 3). The curve is the contour of the palate. The speakers were facing right.	52

Figure 2-18. Nomograms relating the formants and the location of constriction in source-filter theory (Fant, 1960).....	53
Figure 2-19. Locations of velocity nodes (points of maximum velocity) of the second resonant frequency. (Chiba and Kajiyama, 1941)	53
Figure 2-20. (a) variation of the height feature by moving the tongue, jaw, and lips towards an [i] position. (b) moving away from the [i] position by raising and advancing the blade of the tongue towards an alveolarized high front vowel. the (C) Acoustic data of the articulatory gestures in (a) and (b). The first seven points represent variation in Height in (a), the remaining show the acoustic data for (b) (Ladefoged and Lindau, 1989)	54
Figure 2-21. A comparison of the EMA results of this study and the tongue gestures presented in the experiment of Ladefoged and Lindau (1989).....	55
Figure 2-22. The palatogram and linguagram of [i] on the left, and those of [ɪ] on the right.	56
Figure 2-23. X-ray midsagittal tracings and formant patterns of Swedish [y] and [ʉ] (Fant, 1973)	57
Figure 2-24. Spectrograms and formants of the fricative vowel V1 and the non-fricative close vowel V2 in Mambila	58
Figure 2-25. Side view and front view of the lip position for [u] for a male speaker (upper) and a female speaker (lower).....	60
Figure 2-26. The waveform and spectrogram of [pu44] (a female speaker)	60
Figure 2-27. The lingual configurations for [u] [o] [u(ɛ)] [u(ɑ)] [u(əɳ)] [u(əʔ)] of a male speaker.	60
Figure 2-28. Narrow-band and wide-band spectrograms of (a) [i], (b) [ɪ] (a female speaker)	62
Figure 2-29. Narrow-band and wide-band spectrograms of (a) [ɪ], (b) [ʏ], (c) [u] and (d) [y] (a female speaker)	63
Figure 2-30. spectra of (a) [ʒ] in Portuguese (Jesus and Shadle, 1999), (b) [ʒ] in English (Soli, 1982), the (c) [i] in Suzhou Chinese	66
Figure 2-31. Left: Lingual configurations for [ɹ] [ʏ] from a Ningbo male speaker. (Hu, 2005); right: Lingual configurations for [ɹ] [ʏ] from a Suzhou male speaker	67
Figure 2-32. X-ray tracings of fricative [s] in Beijing Mandarin (Ladefoged and Wu, 1984).....	67
Figure 2-33. The tongue configurations for [ɹ] [i] [ɪ], and the first three formants of the three vowels (data from a male speaker)	69
Figure 2-34. Vowel loops for the vowels in Suzhou Chinese (broken line and small font) and Ningbo Chinese (unbroken line and large font) for female (left) and male (right) speakers (Data from Hu (2005)).....	70
Figure 2-35. Vowel loops of Suzhou Chinese (broken line and small font) and Mandarin Chinese (plain line and large font) for female (left) and male (right) speakers (Data from Lee and Zee (2001))	71
Figure 2-36. Vowel loops of Suzhou Chinese (broken line and small font) and American English (plain line and large font) for female (left) and male (right) speakers (Data from Peterson and Barney (1952)).....	72

Figure 3-1. The spectrogram for a short syllable of [əʔ]	75
Figure 3-2. Vowel ellipses and scatter for vowels in Suzhou Chinese in (C)VN syllables for male (right) and female (left) speakers	77
Figure 3-3. Vowel ellipses and scatter for vowels in Suzhou Chinese in (C)Vʔ syllables for male (right) and female (left) speakers	77
Figure 3-4. Mean positions for vowels in (C)VN syllables (large font) with vowels in (C)Vʔ syllables (small font) in F_2/F_1 plane overlapping for male (right) and female (left) speakers.	77
Figure 3-5. Vowel ellipses in F_2/F_1 plane for [ə(n)] for male (right) and female (left) speakers	78
Figure 3-6. Vowel ellipses in F_2/F_1 plane for [ə(ʔ)] for male (right) and female (left) speakers	79
Figure 3-7. Vowel ellipses in F_2/F_1 plane for [o(ŋ)] for male (right) and female (left) speakers	80
Figure 3-8. Vowel ellipses in F_2/F_1 plane for [o(ʔ)] for male (right) and female (left) speakers	80
Figure 3-9. Vowel ellipses in F_2/F_1 plane for [ã] for male (right) and female (left) speakers	82
Figure 3-10. Vowel ellipses in F_2/F_1 plane for [a(ʔ)] for male (right) and female (left) speakers ..	82
Figure 3-11. Vowel ellipses in F_2/F_1 plane for [ã] for male (right) and female (left) speakers	83
Figure 3-12. Vowel ellipses in F_2/F_1 plane for [ɑ(ʔ)] for male (right) and female (left) speakers ..	83
Figure 3-13. The lingual configurations for [ə(n)] and [ε æ] from three male speakers (Speaker 1, 2, 3). The curve is the contour of the palate. The speakers were facing right.	85
Figure 3-14. The lingual configurations for [ə(ʔ) ε æ] from three male speakers (Speaker 1, 2, 3). The curve is the contour of the palate. The speakers were facing right.	85
Figure 3-15. The lingual configurations for [o(ŋ) o] from three male speakers (Speaker 1, 2, 3). The curve is the contour of the palate. The speakers were facing right.	86
Figure 3-16. The lingual configurations for [o(ʔ) o] from three male speakers (Speaker 1, 2, 3). The curve is the contour of the palate. The speakers were facing right.	86
Figure 3-17. The lingual configurations for [ã æ ɑ] from three male speakers (Speaker 1, 2, 3). The curve is the contour of the palate. The speakers were facing right.	87
Figure 3-18. The lingual configurations for [a(ʔ) æ ɑ] from three male speakers (Speaker 1, 2, 3). The curve is the contour of the palate. The speakers were facing right.	87
Figure 3-19. The lingual configurations for [ã æ ɑ] from three male speakers (Speaker 1, 2, 3). The curve is the contour of the palate. The speakers were facing right.	88
Figure 3-20. The lingual configurations for [ɑ(ʔ) æ ɑ] from three male speakers (Speaker 1, 2, 3). The curve is the contour of the palate. The speakers were facing right.	88
Figure 3-21. The waveform, oral flow and nasal flow of a VN syllable	90
Figure 3-22. Waveforms, oral flows and nasal flows of [əŋ] (A) [oŋ] (B) [ã] (C) and [ã] (D) (from a male speaker)	93
Figure 3-23. Vowel ellipses and scatters of F_2/F_1 plane for [ã] and [ã] for male (right) and female (left) speakers	96
Figure 3-24. Vowel ellipses and scatters of F_2/F_1 plane for [a(ʔ)] and [ɑ(ʔ)] for male (right) and female (left) speakers	96
Figure 3-25. Scatter figures of the vowels in (C)Vʔ syllables for three speakers	96
Figure 3-26. The lingual configurations for [ã ɑ(ʔ)] from three male speakers (Speaker 1, 2, 3).	

The curve is the contour of the palate. The speakers were facing right.	97
Figure 4-1. DVQ for two sounds. Cursor A represents the starting point of the vowel sound, and cursor B is the ending point. DVQ from cursor A to cursor B is shown in the tables in top left of the spectrograms.	104
Figure 4-2. The spectrogram and DVQ curve of a diphthong. Cursor A and B are the boundaries between steady portion and transition.	105
Figure 4-3. The spectrogram and DVQ curve of a diphthong. The position of the crossing point and critical line is the boundary between transition and steady portion.	106
Figure 4-4. Temporal structure of the Suzhou diphthongs (data from 20 male and female speakers)	108
Figure 4-5. Temporal structure in percentage of the Suzhou diphthongs (data from 20 male and female speakers)	108
Figure 4-6. Diphthong arrows for the Suzhou diphthongs in F_2/F_1 plane (data from 10 female speakers)	112
Figure 4-7. Diphthong Arrows for the Suzhou diphthongs in F_2/F_1 plane (data from 10 male speakers)	112
Figure 4-8. Diphthong arrows and target vowel ellipses for [iæ] and vowel ellipses for monophthongs in (C)V syllables for female (left) and male (right) speakers	114
Figure 4-9. Diphthong arrows and target vowel ellipses for [ia] and vowel ellipses for monophthongs in (C)V syllables for female (left) and male (right) speakers	116
Figure 4-10. Diphthong arrows and target vowel ellipses for [iø] and vowel ellipses for monophthongs in (C)V syllables for female (left) and male (right) speakers	117
Figure 4-11. Diphthong arrows and target vowel ellipses for [uε] and vowel ellipses for monophthongs in (C)V syllables for female (left) and male (right) speakers	118
Figure 4-12. Diphthong arrows and target vowel ellipses for [ua] and vowel ellipses for monophthongs in (C)V syllables for female (left) and male (right) speakers	120
Figure 4-13. Diphthong arrows and target vowel ellipses for [uø] and vowel ellipses for monophthongs in (C)V syllables for female (left) and male (right) speakers	121
Figure 4-14. Diphthong arrows and target vowel ellipses for [ou] and vowel ellipses for monophthongs in (C)V syllables for female (left) and male (right) speakers	122
Figure 4-15. Diphthong arrows and target vowel ellipses for [øʏ] and vowel ellipses for monophthongs in (C)V syllables for female (left) and male (right) speakers	124
Figure 4-16. The lingual configurations for [i(æ) i i] from three male speakers (Speaker 1, 2, 3). The curve is the contour of the palate. The speakers were facing right.	125
Figure 4-17. The lingual configurations for [ε æ (i)æ] from three male speakers (Speaker 1, 2, 3). The curve is the contour of the palate. The speakers were facing right.	126
Figure 4-18. The lingual configurations for [i(a) i i] from three male speakers (Speaker 1, 2, 3). The curve is the contour of the palate. The speakers were facing right.	126
Figure 4-19. The lingual configurations for [a] and [(i)a] from three male speakers (Speaker 1, 2, 3). The curve is the contour of the palate. The speakers were facing right.	127

Figure 4-20. The lingual configurations for [i(ə) i ɪ] from three male speakers (Speaker 1, 2, 3). The curve is the contour of the palate. The speakers were facing right.	127
Figure 4-21. The lingual configurations for [(i)ə ø] from three male speakers (Speaker 1, 2, 3). The curve is the contour of the palate. The speakers were facing right.	128
Figure 4-22. The lingual configurations for [u(ɛ) u o] from three male speakers (Speaker 1, 2, 3). The curve is the contour of the palate. The speakers were facing right.	129
Figure 4-23. The lingual configurations for [(u)ɛ ɛ] from three male speakers (Speaker 1, 2, 3). The curve is the contour of the palate. The speakers were facing right.	129
Figure 4-24. The lingual configurations for [u(ɑ) u o] from three male speakers (Speaker 1, 2, 3). The curve is the contour of the palate. The speakers were facing right.	130
Figure 4-25. The lingual configurations for [(u)ɑ ɑ] from three male speakers (Speaker 1, 2, 3). The curve is the contour of the palate. The speakers were facing right.	131
Figure 4-26. The lingual configurations for [o u u(ə) (u)ə] from three male speakers (Speaker 1, 2, 3). The curve is the contour of the palate. The speakers were facing right.	132
Figure 4-27. The lingual configurations for [o ɑ o(u)] from three male speakers (Speaker 1, 2, 3). The curve is the contour of the palate. The speakers were facing right.	133
Figure 4-28. The lingual configurations for [u o (o)u] from three male speakers (Speaker 1, 2, 3). The curve is the contour of the palate. The speakers were facing right.	133
Figure 4-29. The lingual configurations for [ə(y) ə] from three male speakers (Speaker 1, 2, 3). The curve is the contour of the palate. The speakers were facing right.	134
Figure 4-30. The lingual configurations for [y ɪ (ə)ʏ] from three male speakers (Speaker 1, 2, 3). The curve is the contour of the palate. The speakers were facing right.	134
Figure 4-31. Boxes of the DVQ for all monophthongs and diphthongs in Suzhou Chinese	136
Figure 4-32. Spectrograms of [ʏ] from two different speakers.....	139
Figure 4-33. Spectrograms of [sɿ] by two speakers. DVQ for [sɿ] on left is 339.4, and DVQ for [sɿ] on right is 6658.7	140
Figure 5-1. Diphthong arrows for the diphthongs in Suzhou Chinese in F_2/F_1 plane (C)VN and (C)Vʔ in F_2/F_1 plane (data from 10 female speakers)	144
Figure 5-2. Diphthong arrows for the diphthongs in Suzhou Chinese in F_2/F_1 plane (C)VN and (C)Vʔ in F_2/F_1 plane (data from 10 male speakers)	145
Figure 5-3. Vowel ellipses in F_2/F_1 plane for [i(n)] for male (right) and female (left) speakers...	148
Figure 5-4. Vowel ellipses in F_2/F_1 plane for [i(əʔ)] for male (right) and female (left) speakers .	148
Figure 5-5. The lingual configurations for [i(n)] and [i(əʔ)] from three male speakers (Speaker 1, 2, 3). The curve is the contour of the palate. The speakers were facing right.	149
Figure 5-6. Vowel ellipses in F_2/F_1 plane for [i(oŋ)] for male (right) and female (left) speakers.	149
Figure 5-7. Vowel ellipses in F_2/F_1 plane for [i(oʔ)] for male (right) and female (left) speakers .	149
Figure 5-8. The lingual configurations for [i(oŋ)] and [i(oʔ)] from three male speakers (Speaker 1, 2, 3). The curve is the contour of the palate. The speakers were facing right.	150
Figure 5-9. Vowel ellipses in F_2/F_1 plane for [i(ã)] for male (right) and female (left) speakers...	151
Figure 5-10. Vowel ellipses in F_2/F_1 plane for [i(aʔ)] for male (right) and female (left) speakers	151

Figure 5-11. Vowel ellipses in F ₂ /F ₁ plane for [i(ã)] for male (right) and female (left) speakers .	151
Figure 5-12. Vowel ellipses in F ₂ /F ₁ plane for [i(aʔ)] for male (right) and female (left) speakers	152
Figure 5-13. The lingual configurations for [i(ã)] [i(aʔ)] [i(ã)] and [i(aʔ)] from three male speakers (Speaker 1, 2, 3). The curve is the contour of the palate. The speakers were facing right.....	153
Figure 5-14. Vowel ellipses in F ₂ /F ₁ plane for [u(əʔ)] for male (right) and female (left) speakers	154
Figure 5-15. Vowel ellipses in F ₂ /F ₁ plane for [u(əʔ)] for male (right) and female (left) speakers	154
Figure 5-16. The lingual configurations for [u(əʔ)] and [u(əʔ)] from three male speakers (Speaker 1, 2, 3). The curve is the contour of the palate. The speakers were facing right.....	155
Figure 5-17. Vowel ellipses in F ₂ /F ₁ plane for [u(ã)] for male (right) and female (left) speakers	156
Figure 5-18. Vowel ellipses in F ₂ /F ₁ plane for [u(aʔ)] for male (right) and female (left) speakers	156
Figure 5-19. Vowel ellipses in F ₂ /F ₁ plane for [u(ã)] for male (right) and female (left) speakers	156
Figure 5-20. The lingual configurations for [u(ã)] [u(aʔ)] and [u(ã)] from three male speakers (Speaker 1, 2, 3). The curve is the contour of the palate. The speakers were facing right...	157
Figure 5-21. Vowel ellipses in F ₂ /F ₁ plane for [y(əʔ)] for male (right) and female (left) speakers	158
Figure 5-22. Vowel ellipses in F ₂ /F ₁ plane for [y(əʔ)] for male (right) and female (left) speakers	158
Figure 5-23. The lingual configurations for [y(əʔ)] and [y(əʔ)] from three male speakers (Speaker 1, 2, 3). The curve is the contour of the palate. The speakers were facing right.....	159
Figure 5-24. Vowel ellipses in F ₂ /F ₁ plane for [in] for male (right) and female (left) speakers ...	160
Figure 5-25. Vowel ellipses in F ₂ /F ₁ plane for [(i)əʔ] for male (right) and female (left) speakers	160
Figure 5-26. The lingual configurations for [i(n)] and [(i)əʔ] from three male speakers (Speaker 1, 2, 3). The curve is the contour of the palate. The speakers were facing right.....	161
Figure 5-27. Vowel ellipses in F ₂ /F ₁ plane for [(y)ə(n)] for male (right) and female (left) speakers	162
Figure 5-28. Vowel ellipses in F ₂ /F ₁ plane for [(y)əʔ] for male (right) and female (left) speakers	162
Figure 5-29. The lingual configurations for [(y)ə(n)] and [(y)əʔ] from three male speakers (Speaker 1, 2, 3). The curve is the contour of the palate. The speakers were facing right...	163
Figure 5-30. Vowel ellipses in F ₂ /F ₁ plane for [(u)ə(n)] for male (right) and female (left) speakers	164
Figure 5-31. Vowel ellipses in F ₂ /F ₁ plane for [(u)əʔ] for male (right) and female (left) speakers	164
Figure 5-32. The lingual configurations for [(u)ə(n)] and [(u)əʔ] from three male speakers	

(Speaker 1, 2, 3). The curve is the contour of the palate. The speakers were facing right...	165
Figure 5-33. Vowel ellipses in F_2/F_1 plane for [(i)o(η)] for male (right) and female (left) speakers	166
Figure 5-34. Vowel ellipses in F_2/F_1 plane for [(i)o(?)] for male (right) and female (left) speakers	166
Figure 5-35. The lingual configurations for [(i)o(η)] and [(i)o(?)] from three male speakers (Speaker 1, 2, 3). The curve is the contour of the palate. The speakers were facing right...	167
Figure 5-36. Vowel ellipses in F_2/F_1 plane for [(i)ã] for male (right) and female (left) speakers.	168
Figure 5-37. Vowel ellipses in F_2/F_1 plane for [(i)a(?)] for male (right) and female (left) speakers	168
Figure 5-38. Vowel ellipses in F_2/F_1 plane for [(u)ã] for male (right) and female (left) speakers	168
Figure 5-39. Vowel ellipses in F_2/F_1 plane for [(u)a(?)] for male (right) and female (left) speakers	169
Figure 5-40. The lingual configurations for [(i)ã] [(i)a(?)] [(u)ã] and [(u)a(?)] from three male speakers (Speaker 1, 2, 3). The curve is the contour of the palate. The speakers were facing right.....	170
Figure 5-41. Vowel ellipses in F_2/F_1 plane for [(i)ã] for male (right) and female (left) speakers.	170
Figure 5-42. Vowel ellipses in F_2/F_1 plane for [(i)a(?)] for male (right) and female (left) speakers	171
Figure 5-43. Vowel ellipses in F_2/F_1 plane for [(u)ã] for male (right) and female (left) speakers	171
Figure 5-44. The lingual configurations for [(i)ã] and [(i)a(?)] from three male speakers (Speaker 1, 2, 3). The curve is the contour of the palate. The speakers were facing right.....	172
Figure 5-45. The lingual configurations for [(u)ã] from three male speakers (Speaker 1, 2, 3). The curve is the contour of the palate. The speakers were facing right.....	173

List of Tables

Table 1-1 Vowel system of Suzhou Chinese.....	8
Table 1-2. The consonant system of Suzhou Chinese (Chao, 1928).....	9
Table 1-3. The citation tone system of Suzhou Chinese (Wang, 1983).....	9
Table 2-1. Test words for target monophthongs [ɿ ʏ i y u ɪ ʏ ø ε o æ ɑ] in Suzhou.....	14
Table 2-2. Means and standard deviations (in Hz) of the first three formants of the vowels in Suzhou Chinese (data from 10 female speakers).....	18
Table 2-3. Means and standard deviations (in Hz) of the first three formants of the vowels in Suzhou Chinese (data from 10 male speakers).....	18
Table 2-4. A comparison of the frequency values of first three formants between [i] and [ɪ], [y] and [ʏ].....	20
Table 2-5. The frequency values of first three formants for [i] [ɪ] [y] [ʏ] (male speakers) in Suzhou	

Chinese, Cantonese (Zee, 2000), Beijing Mandarin (Lee and Zee 2001) and English (Peterson and Barney, 1952).....	22
Table 2-6. The HNR (in dB) for the pairs of fricative and non-fricative vowels.....	23
Table 2-7. A comparison of the frequency values of the first three formants between [ɿ] and [ʮ].	24
Table 2-8. The F ₂ and F ₃ difference between [ɿ] and [ʮ] for each speaker.....	25
Table 2-9. A comparison of the frequency values of first three formants between [ø] and [ɿ ʮ]....	26
Table 2-10. A comparison of the frequency values of first three formants between [ø] and [u], and between [u] and [o].....	27
Table 2-11. Values of first three formants for [u o ø] in Suzhou Chinese, Beijing Mandarin and Ningbo Chinese (male speakers).....	28
Table 2-12. Vowel distances between ɪ - ε, ε - æ, ɪ - æ.....	29
Table 2-13. Values of first three formants for [ε æ α] in Suzhou Chinese, and English (male speakers).....	30
Table 2-14. Percentage differences (PD) between female and male formants (F ₁ , F ₂ and F ₃).....	31
Table 2-15. The first three formants of the female speakers scaled to those of the males of Suzhou Chinese using uniform normalization.....	33
Table 2-16. The first three formants of the female speakers scaled to those of the males of Suzhou Chinese using non-uniform normalization.....	35
Table 2-17. The three coordinate values for the vowels of male and female speakers of Suzhou Chinese in the auditory-perceptual space (APS).....	36
Table 2-18. The mean distance and width of the constriction in the palatogram and linguagram..	45
Table 2-19. Place of articulation of the four vowels for different speakers.....	45
Table 2-20 Means (in Hz) of the first three formants for [ɿ i] in Suzhou Chinese (data from 10 female speakers and 10 male speakers).....	54
Table 2-21. Formant structures for [u ɿ i].....	61
Table 2-22. Means of HNR in five frequency ranges for the all close vowels [ɿ ʮ i y u ɪ ʏ] in Suzhou Chinese.....	64
Table 2-23. The frequency values of the first three formants for the apical vowels for male speakers in Suzhou Chinese, Ningbo Chinese (Hu, 2005), Beijing Mandarin (Lee and Zee, 2001).....	68
Table 3-1. Test (C)VC syllables.....	74
Table 3-2. Means and standard deviations (in Hz) of the frequency values of the first three formants of the vowels in (C)VN and (C)V? syllables (data from 10 female speakers).....	76
Table 3-3. Means and standard deviations (in Hz) of the frequency values of the first three formants of the vowels in (C)VN and (C)V? syllables (data from 10 male speakers).....	76
Table 3-4. Comparison of the first three formants for [ə] of [ən] [əʔ] and monophthong [ε].....	78
Table 3-5. Comparison of the first three formants for [o] of [oŋ] [oʔ] and monophthong [o].....	80
Table 3-6. Comparison of the first three formants for [a] of [ã] [aʔ] and monophthong [æ].....	81
Table 3-7. Comparison of the first three formants for [ɑ] of [ã] [ɑʔ] and those for [ɑ] in open syllables (data from 10 male speakers).....	83

Table 3-8. PNV and PNN of the monophthongs in (C)VN syllables	92
Table 3-9. Comparison of the first three formants for front ‘a’ and those for back ‘a’ in (C)VN syllables and (C)V? syllables.....	95
Table 4-1. Test words for diphthongs	101
Table 4-2. The range of F ₂ change and rate of change of F ₂ for the diphthongs in Suzhou Chinese.	109
Table 4-3. Mean values (in Hz) and standard deviations of the first three formants for the diphthongs in Suzhou Chinese (data from 10 female speakers)	111
Table 4-4. Mean values (in Hz) and standard deviations of the first three formants for the diphthongs in Suzhou Chinese (data from 10 male speakers)	112
Table 4-5. Comparison of the first three formants of the two elements of [iæ] and those for the monophthongs [i ɪ æ].	114
Table 4-6. Comparison of the first three formants of the two elements of [ia] and those for the monophthongs [i ɪ a].	115
Table 4-7. Comparison of the first three formants of the two elements of [iø] and those for the monophthongs [i ɪ y ø].	117
Table 4-8. Comparison of the first three formants of the two elements of [ue] and those for the monophthongs [u o ε].	118
Table 4-9. Comparison of the first three formants of the two elements of [ua] and those for the monophthongs [u o a].	119
Table 4-10. Comparison of the first three formants of the two elements of [uø] and those for the monophthongs [u o ø].	121
Table 4-11. Comparison of the first three formants of the two elements of [ou] and those for the monophthongs [o u].	122
Table 4-12. Comparison of the first three formants of the two elements of [øy] and those for the monophthongs [ø y y].	124
Table 4-13. Means of DVQ and standard deviations for all monophthongs and diphthongs in Suzhou Chinese.....	136
Table 4-14. DVQ for [uø] and [ø] for 10 male and 10 female speakers in Suzhou	138
Table 4-15. The mean DVQ for [y] for each individual speaker	138
Table 5-1. Test words for target diphthongs of (C)VC syllables in Suzhou	144
Table 5-2. Means in Hz and standard deviations for the first three formants of the diphthongs in (C)VN (data from 10 female speakers).....	145
Table 5-3. Means in Hz and standard deviations for the first three formants of the diphthongs in (C)VN (data from 10 male speakers).....	146
Table 5-4. Means in Hz and standard deviations for the first three formants of the diphthongs in (C)V? (data from 10 female speakers).....	146
Table 5-5. Means in Hz and standard deviations for the first three formants of the diphthongs in (C)V? (data from 10 male speakers).....	147
Table 5-6. Comparison of F3 (in Hz) among [i(oŋ)] [i(oʔ)] [i] and [y] for both male and female	

speakers.....	150
Table 5-7. Comparison of F1 (in Hz) between low vowels in DN and D? syllables	174
Table 6-1. Vowels in (C)V syllables of Suzhou Chinese	176
Table 6-2. Diphthongs in (C)V syllables of Suzhou Chinese	176
Table 6-3. The vowels in (C)VC syllables of Suzhou Chinese.....	177
Table 6-4. The vowels in (C)VC syllables of Suzhou Chinese.....	178
Table 6-5. The previous transcriptions and phonetic transcriptions for the monophthongs and diphthongs in (C)V syllables.....	180
Table 6-6. Previous transcriptions and phonetic transcriptions for the monophthongs and diphthongs in (C)VC syllables.....	181