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Feb, 2009

Thesis for Master Degree

A COMPARATIVE STUDY
ON ENGLISH, CHINESE AND
KOREAN PRONUNCIATION

Graduate School of Chosun University

Department of
English Language and Literature

Qiao Yun

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Graduate School of Chosun University

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English Language and Literature

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Thesis Supervisor: Lee Nam–Guen

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CONTENTS

ABSTRACT

Chapter 1. Introduction.....	1
1.1 Review of Contrastive Analysis.....	1
1.2 Literature Review of Phonological Contrastive Analysis	2
1.3 Content and Focus.....	4
Chapter 2. Pronunciation Comparison.....	6
2.1 Characteristics of Three Languages.....	6
2.2 Comparison of English, Chinese and Korean Vowels.....	7
2.2.1 Comparison of Monophthongs.....	8
2.2.2 Comparison of Diphthongs.....	14
2.2.3 A Brief Summary about Vowels.....	16
2.3 Comparison of English, Chinese, and Korean Consonants.....	17
2.3.1 Consonant System of Three Languages.....	17
2.3.2 Characteristics of Consonants in Three Languages.....	19
2.3.3 Confusing Consonants in Three Languages.....	21
2.3.4 A Brief Summary about Consonants.....	24
2.4 Comparison of Syllables among English, Chinese and Korean	24
2.4.1 Syllable Structures.....	24
2.4.2 Comparison of the Syllable Combination Rules.....	26
2.4.3 A Brief Summary about Syllables.....	30
2.5 Summary.....	30

Chapter 3. The Influence of L1 and L2 on L3.....	31
3.1 Vowels.....	31
3.2 Consonants.....	31
3.3 Syllables.....	32
3.4 Analysis to the Influence.....	32
3.4.1 Negative Influence.....	33
3.4.2 Positive Influence.....	33
3.4.3 Variables.....	33
3.5 Summary.....	35
Chapter 4. Conclusion.....	36
4.1 Summary.....	36
4.2 Significance.....	36
4.2.1 Theoretical Significance.....	37
4.2.2 Practical Significance.....	37
References.....	38
Acknowledgements.....	44
Appendix.....	45

List of Tables

<TABLE 1> The Distribution of English Monophthongs.....	9
<TABLE 2> The Distribution of Chinese Monophthongs.....	9
<TABLE 3> The Distribution of Korean Monophthongs.....	10
<TABLE 4> Table of English Consonant Distribution.....	19
<TABLE 5> Table of Chinese Consonant Distribution.....	19
<TABLE 6> Table of Korean Consonant Distribution.....	20
<TABLE 7> Ways of Forming Syllables.....	26

국문초록

영·중·한 발음 비교 연구

교 운

지도교수 : 이 남 근

중국과 한국의 경제 문화 교류가 갈수록 빈번해짐에 따라 중국에서 제2외국어로써의 한국어 교육과 학습방법이 절실한 필요성을 느끼고 있다. 연구에 의하면 원활한 의사소통은 뜻과 소리가 한 덩어리로 된 말소리에서 실행되며 화자와 청자가 주고받는 말소리는 또한 그것을 구성한 음운에 의해 실현된다. 이런 점에서 영어를 제1외국어로 하는 우리 중국인이 한국어를 제2외국어로 학습하자면 필연적으로 영·중·한 3국 언어의 음운을 비교 연구할 필요가 있다. 지금 까지 중국어와 영어의 음운 비교 연구는 비교적 많지만 중국어와 영어의 음운 비교 연구를 바탕으로 중국인 대상의 한국어 음운 연구는 별로 많지 않다.

본 논문은 영 중 한 3국 언어를 음운론 영역에서 비교 분석을 통하여 3자간의 공통점과 차이점을 포착하여 각 언어의 음운 특징을 파악함으로써 중국어 화자가 제2외국어로 한국어를 배울 때 한국어 음운에서 나타나는 일련의 오류와 문제점을 발견하고 그 해결 방안을 제시한다. 본 논문은 영·중·한 3국 언어의 음운 특징과 구조를 체계적으로 분석연구 하여 한국어를 제2외국어로 하는 중국인 학습자가 한국어 음운을 습득 할 때 유용한 정보를 주어 능률적인 학습을 할 수 있게 하는데 그 목적이 있다.

제 1장에서는 선행연구를 바탕으로 본 논문의 연구 방향과 연구방법을 검토하였다. 제 2장에서는 한·중·영 세 언어의 모음과 자음을 각각 대조 비교 하면서 삼자간의 공통점과 차이점을 총괄적으로 살펴보았다. 제2장의 검토 결과에 따라 제 3장에서는 중국어화자가 영어를 이미 제 1외국어로 습득한 후 제2외국어인 한국어 발음을 습득함에 있어서의 미치는 영향과 간섭현상을 체계적으로 살펴보았는데 결과 모국어와 제 1외국어인 영어는 중국어 화자가 한국어 발음을 학습함에 있어서 상당한 간섭을 하고 있다는 것을 알 수 있다

ABSTRACT

A Comparative Study on English, Chinese and Korean Pronunciation

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In recent years, communication between China and western countries, as well as neighbour countries such as Korea, has been increasing rapidly. More and more Chinese students want to learn not only English, but also one or two other foreign languages. Research has showed that spoken language plays a significant role in the process of communication. And pronunciation decides the effect of communication directly. As a result, it is crucial to master correct English, and other languages pronunciation, such as Korean language pronunciation.

In China, except the comparative studies on English and Chinese phonology, not enough work has been done so far in bilingual phonological comparison between other foreign languages and Chinese. Let alone, trilingual phonological comparison, say, among English, Chinese, and Korean.

In view of this situation, this thesis is to make a phonological comparison of English, Chinese, and Korean pronunciation, and try to find the similarities and dissimilarities among languages so that it will be of help to master phonological features of different languages. It also expose the problems that Chinese students have in the pronunciation of the second-foreign language Korean by comparing that of Chinese and the first-foreign language English, and explain the problems. This thesis is written in hope to provide some theoretical insight as well as some practical ways in teaching and learning of the pronunciations of foreign languages, especially of Korean as a second-foreign language.

Chapter one gives a brief introduction and literature review.

Chapter two deals with the comparison of the segmental and suprasegmental features of the sounds in respects of vowels, consonants, and syllables of the three languages. Chapter three analyses Chinese and English influence on Chinese students' learning of Korean at the phonological level and then analyses why the influence occurs with evidence from real classroom observation. The last chapter is the conclusion of the whole paper. This conclusion is coherent to the result of the observation that Chinese language has larger and stronger influences on the students.

Key Words:

Comparison, Pronunciation, Vowels, Consonants, Syllables, Similarities, Dissimilarities

Chapter 1 Introduction

1.1 Review of Contrastive Analysis

A systematic contrastive analysis analyzing the differences and similarities among languages was clearly recognized towards the end of 19th century and the beginning of 20th century, especially in Europe. The term 'Contrastive linguistics' was suggested, for comparative study which gives emphasis linguistic differences. Meanwhile contrastive linguistics has been redefined as 'a subdiscipline of linguistics' concerned with the comparison of two or more languages or subsystems of languages in order to determine both the differences and similarities between them.

The publication of Robert Lado R.'s (1957) marks the real beginning of modern applied contrastive linguistics. Contrastive Analysis is the method of analyzing the structure of any two languages with a view to estimate the differential aspects of their systems, irrespective of their genetic affinity or level of development. Contrastive analysis of two languages become useful when it is adequately describing the sound structure and grammatical structure of two languages, with comparative statements, giving due emphasis to the compatible items in the two systems. It is assumed that learning of second language is facilitated whenever there are similarities between that language and mother tongue. Learning may be interfered with when there are marked contrasts between mother tongue and second language.

The contrastive analysis emphasizes the influence of the mother tongue in learning a second language at phonological, morphological and syntactic levels. Examination of the differences between mother tongue and the first-foreign language helps to predict the possible errors that enable made by first-foreign language learners. Contrastive analysis is not merely relevant for the first-foreign language teaching but it can also make useful contributions to machine translation and linguistic typology. It is relevant to the designing of teaching material for use in all age groups.

1.2 Literature Review of Phonological Contrastive Analysis

In China, to meet the demand of the theory as well as the practice, the contrastive study of English and Chinese pronunciation plays a role in the whole contrastive study of English and Chinese; while, it does not attract much concern, and there are a few researches specializing on pronunciation contrastive study. From 1996 to 2006, in Tsinghua Tongfang Outstanding Master and Doctor Dissertation Library¹⁾, totally, there are two papers on contrastive study of English and Chinese phonetics: One is about the contrastive study of the segment and phoneme of English and Chinese, the other is about the contrastive study of the suprasegmentals and phonemes of English and Chinese. In other materials like the monograph of phonetics and phonology, thesis collections concentrated on contrastive study of English and Chinese, and the papers written by some national well-known linguists like Xu Tongqiang(2001) and Pan Wenguo(1997), there are a few papers concentrating on contrastive study of the English and Chinese pronunciation. In the monographs on contrastive study of the English and Chinese phonetics like Zhao Demei's(1995), the proportion related to syllable contrast is quite short.

The situation is better for the study of Chinese syllables in China. National linguistic circles have always been paying enough attention to pronunciation study, which can be well illustrated by the figures mentioned above: the number of thesis on Chinese pronunciation is far more than that of English pronunciation. This can be attributed to the special importance of pronunciation to Chinese. Plus, there are several papers related to pronunciation study in Tsinghua Tongfang Outstanding Master and Doctor Dissertation Library. In the field of phonology research, famous scholars like Ma Qiuwu(2003), have made use of the Theory of Nonlinearity Phonology and achieved a lot in the study of Chinese pronunciation. Additionally, there are also some papers on English and Chinese pronunciation based on phonetic experiments.

It's generally admitted that the contrastive study of pronunciation belongs to

1)It is a famous web site in China which collect thesis written by Ma or Ph.D from famous universities in China.

that of phonetics. In Chinese Journal Database²⁾ between 1996 and 2006, there are 12 papers with the words 'Contrastive Study of English and Chinese Phonetics' in the title, which is 6 more than that with the words 'Contrastive Study of English and Chinese Syllables' in the title. In some thesis collections like 'Contrastive Study of English and Chinese Culture', and 'Comparison and Translation Between English and Chinese' composed by Li Ruihua(1990, 1996) and Yang Zijian(1990) respectively, there are some papers related to the contrastive study of the English and Chinese phonetics: 'The Comparison of the Main Features of Phonetic System of English and Chinese' written by Gui Cankun (1996), 'On Contrast between English and Chinese Phonetics' written by Zhou Liuxi (2000), 'Contrast between English and Chinese Stressed and Unstressed Syllables' written by He Shanfen (2002), 'Comparison between English and Chinese Variation' written by Pan Yongliang (2001) etc. All of these papers either have some relationship with or cover some content of pronunciation contrastive study. In 'A Limited View of Contrastive Study of English and Chinese', Yang Zijian (1996) points out that we should conduct the two-way (English to Chinese and Chinese to English) study of English and Chinese phonetics, in which, besides their phonemic function of semantic expression and style, emphasis should be laid on the meaning-distinctive function and stylistic implication of stress, tone, pitch, intensity of sound, range, pause, velocity, rhythm, liaison and some auxiliary lingual features like aspirate, falsetto, whisper, cry and laughter, for they can do a favor in some specific problems in teaching and translation relevant to phonetics. Nevertheless, he still didn't advocate particular emphasis on the pronunciation contrastive study of English and Chinese.

The shortcomings existed in the national current study of the contrastive study between the English and Chinese pronunciation can be summarized as follows: firstly, contrastive study between English and Chinese pronunciation is simply considered as the phonetics contrast, and is stressed upon comparing the syllable's interior, like similarities and differences of the syllable constituents, the constitution rules of syllables as well as the structure types of syllables, while

2) It is a famous web site in China which collect thesis written by MA or Ph.D from a famous universities in China.

neglects other aspects, like the function and usage of syllables, and even don't count these issues as a portion of pronunciation studies; secondly, the contrastive study between English and Chinese pronunciation tends to be conducted by the criterion of the English syllables, in this way, the original characteristics of Chinese syllables are ignored intentionally or accidentally; thirdly, in the contrastive study between the English and Chinese pronunciation, especially the study on the differences, many scholars have made some contrastive analysis from the aspect of some certain features, which is unsystematic and needs systematic sum-up.

Chinese students have shown gradually great interest in learning a second-foreign language. From a sociolinguistic perspective, the spread of English in the world, the increasing mobility of the world population and the recognition of minority languages have resulted in social and educational situations in which learning more than two languages is not exceptional. On the other hand, from a psycholinguistic perspective. Second-foreign language acquisition research presents specific characteristics derived from the fact that Second-foreign language learners are experienced learners and also because bilingual and multilingual individuals present a different type of competence as compared to that of monolinguals. In this thesis, the first-foreign language refers to English and the second-foreign language refers to Korean. Comparison between Korean and Chinese seems to have drawn much less attention. So far, little phonological comparison of the English and Korean pronunciation has been made systematically in China. Even less efforts have been made in the research work on the trilingual phonological comparison among Chinese, English and Korean. In China, no intensified study seems to have focused on phonological comparison of English, Chinese and Korean yet.

1.3 Content and Focus

With globalization and the flourish of world business, communication between western countries, Korea and China has become more and more frequent. The need to communicate in both English and Korean has grown accordingly. Learning a foreign language is not only acquisition of getting the words and syntax right. People can not be understood until they can pronounce it well. A good pronunciation can ensure the effectiveness of communication.

In view of the insufficiency and inadequacy of the research work done on

the phonological comparison of Chinese, English and Korean, this thesis is written in an attempt to contribute a little bit in filling up the above mentioned academic gap. The thesis first deals with the comparison of the segmental and suprasegmental features of the sounds in respects of vowels, consonants, and syllables of the three languages. Chapter three analyses Chinese and English influence on Chinese students' learning of Korean at the phonological level and then analyses why the influence occurs with evidence from real classroom observation. The last chapter is the conclusion of the whole paper. It is hoped that the study endeavored here is helpful for both teaching and learning Korean as a second-foreign language.

The students, introduced to show the pronunciation transfer from English and Chinese to Korean, are studying in a foreign language school in Qiqihar, China. The twenty of them are all college students who have learned English as foreign language for at least ten years. They learned Korean for four and a half hours every week for three months in the Korean language training course. As an assistant in that course the author conducted the study by observation.

Chapter 2 Pronunciation Comparison

2.1 Characteristics of Three Languages

English is the first language in United Kingdom, United States and 103 other countries. It has 402 million first language speakers and possibly 850-1,000 million second language speakers. Major regional variations are British English, Scottish English, American English, Canadian English, Australian English, New Zealand English, Indian English, Philippine English, Liberian English, South African English, etc. In this essay, we will focus on American English. American English will be discussed in this thesis for it has become gradually popular in China.

Chinese is the first language in PRC (People's Republic of China), Taiwan of China, Singapore, Indonesia, Malaysia, and other Chinese communities around the world. It has 1.2 billion total speakers. Inside PRC, there are seven major regional variation of Chinese: Mandarin, Wu, Xiang, Gan, Hakka, Cantonese, and Min. In addition, there is also *Putonghua* and *Guoyu*, the official languages of PRC and Taiwan of China, respectively. Among overseas Chinese communities, particularly in Southeast Asia, Putonghua is known as *huayu* ("the Chinese language"). Putonghua will be discussed in this essay for it is the official language.

Korean is the first language in Korea. Korean language (KL) is spoken by more than 72 million people living on the Korean peninsula. Although it differs slightly in spelling, alphabetization, and vocabulary between the two regions, KL is the official language of both South Korea and North Korea. Outside of the KL peninsula, there are about two million people in China who speak Korean as their first language, another two million in the United States, 700,000 in Japan, and 500,000 in the Russian regions of Kazakhstan and Uzbekistan.³⁾ There are several dialects spoken in Korea. KL spoken in Seoul, the capital city of Korea, will be discussed in this thesis, for it is the official language of Korea.

3) <http://www.neea.edu.cn/> Web site of Chinese National Education Examinations Authority

2.2 Comparison of English, Chinese and Korean Vowels

A vowel is produced without obstruction, so no turbulence or a total stopping of the air can be perceived. Vowels are the cores of words. They decide sounds of words mostly. Their pronunciation should be paid more attention during our learning. They are categorized into three according to the number of vowel sound: monophthongs⁴⁾, diphthongs⁵⁾, triphthongs⁶⁾.

Each language would have its own phonetic symbols. In this thesis we will use the English vowel system to transcribe English vowels, Pinyin⁷⁾, and Roman letter as those of KL. We will also transcribe vowels and consonants into International Phonetic Alphabet (IPA) to compare them with the same standard. The following is the comparison of Vowel Systems among the three languages.

- (1) There are 20 English vowels in English.
 - a. There are 12 monophthongs in English.
[i], [ɪ], [e], [æ], [ɑ:], [ɔ], [ɔ:], [ʊ], [u], [ʌ], [ə], [ɜ:]
 - b. There are 8 diphthongs in English.
[ei], [əu], [ai], [au], [ɔi], [iə], [eə], [ʊə]

- (2) There are 38 Chinese vowels in Chinese. ⁸⁾
 - a. There are 10 monophthongs in Chinese.
a[a], o[o], e[ɤ], ê[ɛ], i[i], -i(front)[ɿ], -i(back)[ʮ], u[u], ü[y], er[ə]
 - b. There are 9 diphthongs in Chinese.
ai[aɪ], ei[eɪ], ao[aɔ], ou[əʊ], ia[iʌ], ie[iɛ], ua[uʌ], uo[uo], üe[yə]
 - c. There are 4 triphthongs in Chinese.
iao[iau], iou[iəu], uai[uai], uei[uei]
 - d. There are 15 nasal vowels in Chinese. (When we pronounce nasal

4) A *monophthong* is a single vowel. Monophthongs are 'pure' vowels. They have only one target tongue position.

5) A *diphthong* is a vowel combination usually involving a quick but smooth movement from one vowel to another, often interpreted by listeners as a single vowel sound or phoneme. Diphthongs have a moving tongue.

6) A *triphthong* is a monosyllabic vowel combination usually involving a quick but smooth movement from one vowel to another that passes over a third one.

7) They are phonetic symbols of Chinese

8) PinYin at the left, IPA at the right.

vowels, we should produce the vowels and the nasal consonants into a tight unit.) There are 8 front velar nasal vowel among nasal vowels. an[an], en[ən], n[in], ün[yn], ian[ian], uan[uan], üan[yan], uen[uən]. There are 7 back velar nasal vowel among nasal vowels. ang[aŋ], eng[ɤŋ], ing[iŋ], ong[ɔŋ], iang[iaŋ], uang[uaŋ], ueng[uɤŋ], iong[iɔŋ]. When we pronounce nasal vowels, we should produce the vowels and the nasal consonants into a tight unit.

(3) There are 21 Korean vowels in KL⁹⁾

a. There are 10 monophthongs in KL.

ㅏ [a], ㅓ [ə], ㅗ [o], ㅜ [u], ㅡ [ɯ], ㅣ [i], ㅑ [ɛ], ㅕ [e], ㅛ [ø], ㅠ [y],

b. There are 11 diphthongs in KL.

ㅘ [ia], ㅙ [iə], ㅚ [io], ㅜㅝ [iu], ㅞ [iɛ], ㅟ [ie], ㅠ [ua], ㅡ [uə], ㅢ [uɛ], ㅣ [ue], ㅤ [wi]

By comparison, we find that Chinese Vowel system has the most vowels and is the most complicated. Every syllable in Chinese is made up of an initial and a final. The final is divided into monophthong, diphthong, triphthong and nasal vowel. On the opposite, the Korean vowel system is a little simple. This indicates Korean vowels are easier to acquire than the English and Chinese ones. However, the much less exposure to sounds has proved to be an important reason for Korean people's wrong pronunciation.

Next let's compare monophthongs, diphthongs and triphthongs in English, Chinese and Korean respectively.

2.2.1 Comparison of Monophthongs

Different shapes and sizes of oral cavities determine the differences in sounds. Especially, the tongue height, tongue position and lip shape determine the basic quality of a vowel. The following is the comparison of the Distribution of Monophthongs. Referring to these standards, we illustrate the distribution of monophthongs of English, Chinese and KL in the following chart:

9) Hangul at the left, Roman letters at the right

<TABLE 1> The Distribution of English Monophthongs

English					
Type	Blade				
Tongue position	Front		Central	Back	
Lip shape Tongue height (Mouth open degree)	Unrounded	Rounded	Unrounded	Unrounded	Rounded
High(close)	i:				u:
Mid-high(close-mid)	ɪ				ʊ
Central			ɜ: ^r ə		
Mid-low(open-mid)	e		ʌ		ɔ:
Low(open)	æ			ɑ:	ɔ

<TABLE 2> The Distribution of Chinese Monophthongs

Chinese								
Type	Blade					Tongue Tip		Retroflex
Tongue position	Front		Central	Back		Front	Back	Central
Lip shape Tongue height (Mouth open degree)	Unround -ed	Round -ed	Unround -ed	Unround -ed	Round -ed	Unround -ed	Unround -ed	Unround -ed
High(close)	i[i]	ü[y]			u[u]	-i[ɿ]	-i[ʮ]	
Mid-high(close-mid)				e[ɤ]	o[o]			
Central								er[ə]
Mid-low(open-mid)	ê[ɛ]							
Low(open)			a[a]					

<TABLE 3> The Distribution of Korean Monophthongs¹⁰⁾

Korean				
Type	Blade			
Tonue position	Front		Central	Back
Lip shape				
Tongue height (Mouth open degree)	Unrounded	Rounded	Unrounded	Rounded
High(close)	ㅣ [i]	ㅍㅣ [y]	ㅡ [ɯ]	ㅓ [u]
Mid-high(close-mid)				
Central	ㅓㅣ [e]	ㅓㅣ [ø]	ㅓㅣ [ə]	ㅓㅣ [o]
Mid-low(open-mid)				
Low(open)	ㅏ [ɛ]		ㅏ [a]	

The vowel types in the monophthong systems are not totally the same. English and Korean monophthongs are all blade vowels; in Chinese, besides blade vowels, there are two especial tip vowels and one retroflex vowel.

There is detailed classification of English vowels and the vowels are distributed average at different height and tongue positions. As a result, the whole system comes to balance. Korean vowels mostly are high vowels, which is the same to Chinese. Chinese vowels tend to be high vowels. There are only a few low vowels.

There is no rounded sound in front vowels in English, but most of back vowels are rounded vowels, except [a:], but it doesn't become the opposite of [o]. It is different from Chinese, which has the opposite pair of front, back vowels [y] [i], another opposite pair of back, mid high vowels [o], [ɤ]. In KL, there is no central rounded vowel.

English vowels have the distinctive features between the tense and the lax, in consequence, they have the distinction between the long and the short: there are five pairs of long vowels and short vowels. Chinese and Korean vowels have no distinction of being tense or lax, long or short, all vowels are produced long and tense.

There is a special monophthong [ü], which can be only found in Chinese. It

10) The table is based on Sohn(1999)

is a close front rounded vowel. The symbol in the IPA that represents this sound is [y]. The tongue is positioned as close as possible to the roof of the mouth without creating a constriction. The tongue is positioned as far forward as possible in the mouth without creating a constriction, and the lips are rounded.

Some of the English, Chinese and Korean monophthongs belong to the same type and their pronunciations are very similar. However, there is still a little difference in the tongue positions and the height (the degree of the mouth opening) to which the tongues being raised. Such sounds are the easiest to confuse. Consequently, such sounds are the biggest component which can lead to the wrong pronunciations. Let's compare the confusing monophthongs in details:

First, let's compare English [ɑ:] [ʌ], Chinese[a] and Korean ㅏ [a]. The four sounds are all produced with unrounded lips. When English [ɑ:] and Korean ㅏ [a] are produced, the tongue is positioned a little backward than Chinese [a] and English [ʌ]. When English [ʌ] is produced, the jaw is opened the narrowest. When English [ɑ:] is produced, the tongue is positioned as far as possible from the roof of the mouth, meanwhile, the tongue is positioned as far back as possible in the mouth without creating a constriction. Compared with English [ɑ:] the Korean ㅏ [a] is a little more forward and higher. The symbol that represents English [ɑ:] sound is [ɑ] in the IPA. English [ɑ:] is a long vowel, and the jaw and tongue should be lowered more; and the mouth should be opened wider than Korean ㅏ [a].

Among Korean vowels, ㅏ [a] sound is produced with the mouth the widest opened, and the tongue positioned the lowest. Chinese [a] is an open (low) central unrounded vowel. The symbol in the IPA that represents this sound is [a]. English [ʌ] is an open-mid (mid-low) central unrounded vowel. The symbol in the IPA that represents this sound is [ʌ]. The tongue is positioned half way between an open vowel and a mid vowel. The tongue is positioned in the center in the mouth without creating a constriction. Meanwhile, the lips are not rounded.

Second, English [i:] [i], Chinese[i], Chinese Tongue Tip vowel: -i(front) - i(back) and Korean ㅣ [i]. English [i:], Chinese [i] and Korean ㅣ [i] are all close high front unrounded vowels; the symbol in the IPA that represents such sound is [i]. English [i:] is a close high front unrounded vowel, but not as front and high as Chinese [i]. English [i:] is articulated with the front of the tongue raised close to the roof of the mouth. The lips are spread and closed together, as if smiling.

The English short [ɪ] is a near-close near-front unrounded vowel, The

symbol in the IPA that represents this sound is [ɪ]. When it is pronounced, the tongue is positioned similarly to a close vowel, but slightly less constricted. The articulation of [ɪ] is similar to that of [i:], except that the lips are not spread so wide. The tongue is a little lower, too.

Chinese [i] is a close high front unrounded vowel. The symbol in the IPA that represents this sound is [i]. To pronounce this vowel, the tongue is positioned as close as possible to the roof of the mouth without creating a constriction. The tongue is positioned as far forward as possible in the mouth without creating a constriction. When [i] is pronounced, the tongue position is the highest and the most forward. The tip touches the lower teeth, does not fall, therefore the lips and the tongue are both tense.

Chinese tip vowels -i(front) -i(back), and the symbols in the IPA that represents these sounds are [ɿ] and [ʮ]. When -i(front) is produced, the tip of tongue is pushed forward, and forms a narrow passage with the back of the upper incisor teeth, constriction does not happen when the air passes, the lips are spread to two sides. When we pronounce the mandarin 'si' and lengthen the sound, the final part of the sound of the word is -i(front). -i(front) only occurs after 'z, c, s', such as 'zi, ci, si' and does not work with any of the others. It can not become a syllable by itself.

When -i(back) is produced, the tip of tongue is raised up toward the hard palate. The tip and the hard palate form a narrow passage. Obstruction does not occur when the air passes. Lips are spread to two sides horizontally. When we pronounce 'shi' and lengthens the pronunciation, the latter part of the sound is -i(back). This vowel only occurs with consonants 'zh, ch, sh, r', for example, 'zhi', 'chi', 'shi'. It cannot become a syllable by itself.

Korean [i] is a close high front unrounded vowel. The tongue position of Korean [i] is a little lower than that of Chinese [i]. The front blade rises toward the hard palate; the tip lowers down a little, and touches the junction between the back of lower central incisor tooth, and lower maxilla. The upper teeth are near the lower teeth, and the mouth is opened a little. Lips are spread naturally, not tense.

Third, let's compare English [u:] [u], Chinese [u] and Korean [u]. The English long vowel [u:] and the Chinese [u] are both close (high) back rounded vowels. The symbol in the IPA that represents this sound is [u]. They are similar

in articulating methods. The tongues are positioned as close as possible to the roof of the mouth without creating a constriction. The tongue is positioned as far back as possible in the mouth. The difference is that Chinese [u] opposites the same articulatory place, i.e. the tongue is positioned at the extreme of the roof and back of the mouth; but, when English [u:] is produced, the tongue is not positioned as high as Chinese [u], it is a little lower; besides, the tongue is positioned a little more forward than Chinese [u]. English [u:] should be produced longer than the Chinese one, for it is a long vowel.

English short [ʊ] is a near-close (mid high) near-back rounded vowel. The symbol in IPA that represents this sound is [ʊ]. It is produced with the tongue lower than English [u:] and Chinese [u], but higher than the close-mid vowels, and more forward than English [u:] and Chinese [u] but more backward than the central vowels. Besides, the lips are unrounded. The mouth muscles are more relaxed.

Korean \top [u] is a close (high) back unrounded vowel. The symbol in the IPA that represents this sound is u. When Korean \top [u] is pronounced, the back part of the tongue surface is raised to be close to the upper soft palate. The tongue tip withdraw immediately after the raising motion, but does not leave the lower alveolar, or fall down too much. The mouth opening degree is a little smaller than Chinese [u].

Fourth, English [ɔ:] [ɔ], Chinese [o] and Korean \perp [o]. English [ɔ:] is an open-mid (midlow) back rounded vowel. The symbol in the IPA that represents this sound is [ɔ]. The tongue is positioned halfway between an open vowel and a mid-vowel and is pulled as far back as possible in the mouth without creating a constriction. Besides, the lips are rounded. The jaw is lowered very slightly. The tongue should be pulled back. The sound of [ɔ:] is made in the middle of the mouth with the mouth opened not as wide as [ɔ]. Try to articulate a very quick, light [ou] sound. That is the sound in 'ought'.

English short [ɔ] is an open (low) back unrounded vowel. The symbol in the IPA that represents this sound is [ɑ]. When it is pronounced, the tongue is positioned as far as possible from the roof of the mouth. Meanwhile, the tongue is positioned as far back as possible in the mouth without creating a constriction. At the same time, the lips are unrounded.

Chinese [o] is close-mid (mid high) back rounded vowel. The symbol in the

IPA that represents this sound is *o*. When it is produced, the tongue is positioned halfway between close vowel and a mid vowel. Meanwhile, the tongue is positioned as far back as possible in the mouth without creating a constriction, and the lips are rounded. Chinese [o] only occurs in the four syllables *bo* /p^o/, *po* /p^o/, *mo*/mo/, *fo*/fo/ , does not occur by itself.

Compared with Chinese [o], Korean ㅜ [o] is a little higher and more backward. To pronounce this sound, the lips are comparatively tense, and round It is produced with more strength than Chinese [o]. The mouth should be stucked out more.

Fifth, English [ə:], [ə], Chinese [e] and Retroflex [ə]. English [ə:], [ə] are schwas. The symbol in the IPA that represents this sound is [ə]. Chinese [ə] is a close-mid (mid-high) back unrounded vowel. The symbol in the IPA that represents this sound is [ɤ].

English [ə:], and [ə], are mid central rounded vowels. In linguistics and phonology, the *schwa* is the vowel sound in many lightly pronounced unaccented syllables in English words of more than one syllable. It is most easily described as sounding like the sound of British English 'er'. It is written as the symbol [ə]. It is the most common vowel sound in the English language. Its sound depends on the adjacent consonants and it is a very short neutral vowel sound.

Chinese [e] is a close-mid (mid high) back unrounded vowel. The symbol in the IPA that represents this sound is [ɤ]. When it is pronounced, the tongue is positioned half way between close vowel and mid vowel; the tongue is positioned as far back as possible in the mouth without creating a constriction and the lips are not rounded. When Retroflex vowel *er* [ə] is pronounced, the cavity is half opened. The degree of opening is a little smaller than \hat{e} .The tongue is at the middle height of the cavity, and is withdrawn back a little. The lip shape is unrounded. When [e] is pronounced, the tip of tongue is rolled up lightly. It is not that [e] is pronounced first, then the tongue is rolled but that as [e] is pronounced, the tongue is. The sound of *r* in *er* does not stand by a phoneme, but a symbol of rolling the tongue. The sound of *er* can merely form a syllable by itself. It can't form a syllable with any consonant. The examples are vowels in Chinese words of 'er' (儿, son), 'yu'(于, to), 'er'(二, two).

2.2.2 Comparison of Diphthongs

A diphthong is a vowel combination usually involving a quick but smooth movement from one vowel to another.

- (4) There are four kinds of diphthongs.
- Falling diphthongs—The stress is on the first element.
 - Rising diphthongs—The stress is on the second element.
 - Closing diphthongs—The second element is closer than the first.
 - Opening diphthongs—The second element is more open than the first.
- (5) Now let's show the comparison of Diphthong Systems of the three languages.
- There are 8 diphthongs in English. They are all falling (closing) diphthongs: [ei], [ai], [oi], [əu], [au], [iə], [ɛə], [uə]. (Only when [iə], [uə] are in unstressed syllables, they can be read as rising diphthongs.)
 - There are 9 diphthongs in Chinese. Among the 9 diphthongs, there are 4 falling (closing) diphthongs: ai[aɪ], ei[eɪ], ao[aɔ], ou[əʊ]. Among the 9 diphthongs, there are 5 rising (opening) diphthongs: ia[iɑ], ie[iɛ], ua[uɑ], uo[uo], üe[yə]
 - There are 11 diphthongs in Korean. They are all falling diphthongs: ㅞ [ia], ㅟ [iə], ㅠ [io], ㅡ [iu], ㅢ [iɛ], ㅣ [ie], ㅤ [ua], ㅥ [uə], ㅦ [uɛ], ㅧ [ue], ㅨ [wi]
- (6) Next let's compare the confusing diphthongs in details. First, let's compare the confusing diphthongs between English and Chinese. There are 4 pairs of diphthongs that have similar sounds:
- [ai]—[ai]
 - [ei]—[ei]
 - [au]—[ao]
 - [əu]—[ou].

The similarities are the following. They are all falling diphthongs. They are

all opening vowels. The direction of smooth movement are mostly the same. The differences are the following. The first component of English diphthongs have stable quality—the pronunciation of the whole vowels are comparatively tense and complete, the moving is comparatively slow, and the process of movement is straight. The vowels sound explicit. The pronunciation of Chinese diphthongs on the whole is the contrast, is not complete, the sound quality of first component of a vowel is not very stable, the second component is comparatively ambique, also, the features as diphthongs are not as obvious as English, and sound like monophthongs.

(7) Compare the confusing diphthongs between Chinese and Korean. There are 3 pairs of diphthongs that have similar sounds:

- a. ia[iʌ]—ㅑ [ia]
- b. ua[uʌ]—ㅓ [ua]
- c. uo[uo] —ㅜ [uə]

The similarities are the following. They are all falling diphthongs. They are all closing vowels. The direction of smooth movement are mostly the same. The differences are the following. The pronunciation of Chinese diphthongs on the whole is the contrast, is not complete, the sound quality of second component of a vowel is not very stable, the first component is comparatively ambique, also. the features as diphthongs are not as obvious as Korean, and sound like monophthongs. The second component of Korean diphthongs have stable quality—the pronunciation of the whole vowels are comparatively tense and complete, the moving is comparatively slow, and the process of movement is straight. The vowels sound explicit.

A triphthong is a monosyllabic vowel combination usually involving a quick but smooth movement from one vowel to another that passes over a third one. There are 4 triphthongs in Chinese: iao[iau], iou[iəu], uai[uaɪ], uei[ueɪ]. There is no triphthong in English. There is no triphthong in Korean.

In Chinese triphthongs, middle vowels are resonant, the former and latter vowel's sounds are short, weak and ambiguous. In view of physical features, these vowels are the real triphthongs.

2.2.3 A Brief Summary About Vowels

The comparison of vowels reveals that there are few similarities but many dissimilarities among English, Chinese and Korean languages. Vowels that sound similar in different language actually have their unique features. Therefore, they should not be articulated in the same way.

2.3 Comparison of English, Chinese and Korean Consonants

Consonants are produced by constricting or obstructing the vocal tract at some place to divert, impede, or completely shut off the flow of air in the oral cavity. Consonants don't sound on their own, but only occur with a nearby vowel. Wrong consonant pronunciations will cause mistakes in pronunciation and thus others cannot understand us, say, if we pronounce **문** [mun] (men door) as **눈** [nun](yan-jing eye). To avoid such problems, students should learn to distinguish consonants in English, Chinese and KL.

2.3.1 Consonant System of Three languages

- (8) There are 24 English consonants: [p], [t], [k], [f], [θ], [s], [ʃ], [tʃ], [h], [b], [d], [g], [v], [ð], [z], [ʒ], [dʒ], [r], [l], [m], [n], [ŋ], [j], [w]
- (9) There are 22 Chinese consonants (Chinese phonetic symbols are used. Pin Yin at the left, IPA at the right.): b[p], p[p^h], m[m], f[f], d[t], t[t^h], n[n], l[l], g[k], k[k^h], h[x], j[tɕ], q[tɕ^h], x[ç], z[ts], c[ts^h], s[s], zh[tʂ], ch[tʂ^h], sh[ʂ] r[r], ng[ŋ]
- (10) There are 19 Korean consonants (Hangul at the left, Roman letters at the right): ㄱ[k], ㅋ[k^h], ㆁ[ŋ], ㄷ[t], ㅌ[t^h], ㅈ[tɕ], ㅊ[tɕ^h], ㅅ[s], ㅆ[s^h], ㅁ[m], ㄴ[n]

We will compare the consonants with four methods: manners of articulation, places of articulation, voicing, and aspiration. We make consonant tables to see clearly the structures of consonant systems and the features of consonants in each language. The following tables list all the consonants in English, Chinese and

Korean respectively, listed by the Phonetic symbols in each language on the left and the IPA on the right.

<TABLE 4> Table of English Consonant Distribution

Manner of articulation Place of articulation	Stop(plosive)		Affricate		Fricative		Nasal	Lateral	Approximate	Semi-vowel
	Voiceless	Voiced	Voiceless	Voiced	Voiceless	Voiced	Voiced	Voiced	Voiced	Voiced
	Aspirated	Unaspirated		Unaspirated						
Bilabial	p	b					m			
Labiodental					f	v				
dental					θ	ð				
Alveolar	t	d			s	z	n	l		
Post-alveolar			tʃ	dʒ	ʃ	ʒ				
Palatal										j
Velar	k	g					ŋ			W
Glottal					h					
Retroflex									r	

<TABLE 5> Table of Chinese Consonant Distribution

manner of articulation place of articulation	Stop(plosive)		Affricate		Fricative		Nasal	Lateral
	Voiceless		Voiceless		Voiceless	Voiced	Voiced	Voiced
	Unaspirated	Aspirated	Unaspirated	Aspirated				
Bilabial	b[p]	p[p ^h]					m[m]	
Labiodental					f[f]			
dental			z[ts]	c[ts ^h]	s[s]			
Alveolar	d[t]	t[t ^h]					n[n]	l[l]
Post-alveolar			j[te]	q[te ^h]	x[ɕ]			
Palatal			zh[tʂ]	ch[tʂ ^h]	sh[ʃ]	r[ʒ]		
Velar	g[k]	k[k ^h]			h[x]		ng [ŋ]	

<TABLE 6> Table of Korean Consonant Distribution

manner of placearticulaof -tion articulation	Stop(plosive)			Affricate			Fricative		Nasal
	voice -less	voiced	voice -less	voice -less	voiced	voice -less	Voice -less	Voic -ed	Voic -ed
	Unaspirat -ed	Unaspirat -ed	Aspirat -ed	Unaspirat -ed	Unaspirat -ed	Aspirat -ed			
Bilabial	ㅂ [p]	ㅃ [p']	ㅍ [p ^h]						ㅁ [m]
Labiodental									
dental				ㅈ [tɕ]	ㅉ [tɕ']	ㅊ [tɕ ^h]			
Alveolar	ㄷ [t]	ㄸ [t']	ㅌ [t ^h]				ㅅ [s]	ㅆ [s']	ㄴ [n]
Post-alveolar									
Palatal									
Velar	ㄱ [k]	ㄲ [k']	ㅋ [k ^h]				ㅍ [x]		
Glottal									

2.3.2 Characteristics of Consonants in Three Languages

If we compare the English, Chinese and Korean consonants, we will find that in the contrast with the variety of vowels, consonants in the three languages have more general characters in manners of articulation and positions of articulation. For articulating the consonants well, a few characteristics should be known:

In English, it is the fortis and lenis that can distinguish the meanings of words. In Chinese, it is aspirated and unaspirated consonants. In Korean, aspirated/unaspirated consonants distinguish the meanings of words.

When people produce the fortis, they exhale with more strength and the speech organ muscles put forth more energy; when people produce the lenis, they exhale with a little strength; what's more, the speech organ muscles are relaxed, and move at ease. Therefore, the voiceless stops are all fortis, while the voiced affricates and fricatives are all lenis. When the features of being voiced do not function, the strength and weakness of the energy of articulation will become a

very important distinctive element.

First, English consonants are divided into voiceless consonants and voiced consonants. Among them, voiced consonants are more than voiceless ones. 8 pairs of English consonants form the opposite of fortis and lenis. Among those pairs, there are three pairs of stops; four pairs of fricatives and one pair of affricates. Others are all voiced consonants. The difference between fortis and lenis has the function of distinguishing meanings. Pairs such as *pig-big*, *cot-got*, *feel-veal* are distinguished by the strength and weakness of the initial consonants' sounds.

Although the distinction between the aspirated and the unaspirated exists in English stops and affricates, the distinction does not influence the meanings of words. For example, /p/ in *speak* should be unaspirated after /s/, but if people produced it as the aspirated, the word's meaning does not change.

Second, the feature of Chinese consonants is different from that of English ones. Most of the Chinese consonants are voiceless. Only 5 Chinese consonants: [m, n, ŋ, l, z₂] are voiced. 3 pairs of stops and 3 pairs of affricates are all voiceless. Consequently, only the features of being aspirated and unaspirated can function to distinguish meanings. For example, *buzi* (pace) and *puzi* (store), *dunxia* (squat) and *tunxia* (swallow), *jinghua* (Essence) and *Qinghua* (Tsinghua Univ.).

Third, In Korean, the feature of being aspirated or unaspirated can also distinguish the meanings of words.

In Chinese, the 3 pairs of stops and 3 pairs of affricates are all voiceless. To distinguish the meaning of Chinese words *pa* (scared)—*ba* (dad), *ca* (clean)—*za* (clash) is to see whether there is strong aspiration or not. Due to the non-existence of voiced stops and voiced affricates in their mother tongue, Chinese people just seem difficult to deal with the pronunciation of those.

Many Chinese students can't distinguish Korean voiced and voiceless consonants. What is worse is that they use the aspirated and unaspirated consonants to replace Korean voiced and voiceless consonants. However, if they use aspirated consonants to replace the voiceless ones, speakers would appear emotional and excited. They would sound like quarrelling or advocating something eagerly. On the other hand, if they use unaspirated sounds to replace the voiced consonants, many 'voiced consonants' they produce will sound to Korean people like voiceless consonants. That would certainly influence the expression of one's idea, and lower the efficiency of oral communication.

In Korean because the strength or weakness of air stream of voiceless consonants does not cause difference of the meanings of words, Korean people are not very sensitive about it. Sometimes, the air streams of voiceless consonants are produced strongly, and sometimes weakly. However, the features of being aspirated and unaspirated can distinguish meanings of words for Chinese people. Thus, they are very sensitive about the energy of aspiration. If they do not adapt themselves to Korean voiced and voiceless system, and are aware of the unaspirated sound as voiced sounds, they will encounter problems in both speaking and listening: many Chinese students tend to sense the weakly aspirated voiceless consonants as voiced.

The key for Chinese people to pronounce Korean voiceless consonants is to shorten the process of aspiration, be careful with the place of friction and lessen the friction intensity. There are two steps to practice the Korean voiceless consonants: One is change the friction position and lessen the friction intensity. The other is shorten the time of the process of aspiration.

2.3.3 Confusing Consonants in Three Languages

If students can't distinguish confusing consonants, their pronunciation will now and then cause misunderstanding. Besides, such confusion would interfere with their listening ability. For this reason, it is necessary for students to study consonants through comparison. Let's compare confusing consonants.

First, let's compare English [s], [z] , Chinese s[s], z [ts] and Korean ㅅ[s] and ㅈ[ʧ]. English [s] and [z] are both alveolar fricatives. They are both produced by putting the teeth together and placing the front of tongue close to the upper alveolar. They are a pair of sounds of voiceless and voiced. When we make a /s/ sound. we do not use our vocal folds. However, when we make a /z/ sound. we do use our voice. Chinese s[s] is also a dental fricative, but it is produced with the tip of tongue extended forward flatly to get close to the upper tooth back. It is a dental sound and has no corresponding voiced sound.

Chinese z[ts] is different from English [z] both in position and manner of articulation. Chinese students usually make mistakes when pronouncing English [z], and replace it by Chinese z [ts], for example, to pronounce zoo/zu:/ as [zu](租rent). Chinese z is a dental affricate. When it is produced, air stream is completely obstructed by the tongue tip and the back of the upper teeth is released in a

fricative manner.

Korean ㅅ[s] and ㅆ[ts] is generally the same as Chinese s[s], z [ts] in the position of articulation. ㅅ[s] is voiceless, while ㅆ[ts] is voiced. Chinese s[s], z [ts] are both voiceless.

Second, let's compare English [θ], [ð] and Chinese s [s], z[ts]. English [θ], [ð] are both dental fricatives. Both of the sounds are made by putting the tongue between upper and lower teeth so that the tip of tongue is touching the tips of upper teeth. If we pronounce correctly, we are able to see the tongues when we say words such as 'this', 'the' and 'that' in a mirror.

The difference between [θ] and [ð] sounds is that [θ] is voiceless. There are no similar sounds in Chinese and Korean. Some Chinese students tend to produce dental fricative [s] and dental affricate [z] to replace for the sounds of [θ] and [ð]. If [θ] and [ð] sound like [s] and [z]. It is because the tongue does not touch the teeth.

Third, let's compare English [ʃ] [ʒ] and Chinese sh [ʃ] x [ç] r [ʒ]. Many Chinese students use Chinese sh [ʃ] or x [ç] to replace English [ʃ] [ʒ]. For example, they pronounce 'show' [ʃəʊ] as [shou] (thin) or [xiu] (show). English [ʃ] [ʒ] are post alveolar sounds. They are made with the tongue tip and the tongue edge to touch the alveolar ridge; meanwhile, the blade is raised to the hard palate. The bilateral sides of tongue touch the bilateral upper teeth; the air stream comes out from between blade and palate, alveolar. Lips are rounded a little and stick out a little.

Chinese *sh* and *r* are tongue-tip palate (tongue-tip back) fricatives and can be called retroflex sound also. We make such sounds by raising the tongue tip close to the front of palate, and forming a narrow interval; and then sunken the blade a little, releasing the airstream from the narrow interval between tongue tip and front hard palate. The sounds are of hard quality. To sum up, position of producing Chinese *sh* and *r* are a little more backward than those of [ʃ] and [ʒ], and there is also distinction between the tongue tip movement and that of English [ʃ] and [ʒ].

Chinese x[ç] is similar to English [ʃ], but there is still difference in articulating positions. X is an alveolar-palate (blade) fricative. We make this sound with the front blade close to the front hard palate. The position of releasing the obstruction is a little forward than English[ʃ], and the approach area is much

smaller than [ʃ]. The lips are spread and do not stick out.

Fourth, let's compare English [tʃ], [dʒ] and Chinese ch [tʃ^h], zh [tʃ]. It is a common mistake that Chinese students replace English [tʃ] and [dʒ] by Chinese ch [tʃ^h], and zh [tʃ], for example, they read *chew* [tʃu:] as *chu* (position), and read *jew* [dʒu:] as [zhu] (live). Chinese ch and zh are both palate affricates and also retroflex. They have the same articulation position with sh, but the articulating method is different. Compared with English [tʃ] and [dʒ], the obstruction position of ch and zh is a little more backward, the air stream is obstructed in a narrower area, and the sound quality is harder.

Fifth, let's compare English [r], [l], Chinese r [ʐ] and Korean ㄹ [l]. Chinese r is a tongue-tip palate (tongue-tip back) fricative and can be called as retroflex also. When speaking English, some Chinese students replace the r sound in *row* [rəu] and *room* [ru:m] by Chinese r, and cause strong accent.

English [r] is a post alveolar sound without friction. When we produce this sound, we should raise tongue tip behind the alveolar toward the hard palate, but not let it approach the hard palate as much as Chinese r. Besides, let the air stream pass from the middle area of the tongue without friction. The lips are drawn rounded.

There are two different ways to make [l] sounds in American English. The most common way is to put the tip of the tongue on the roof of the mouth behind the teeth (as if we were going to make a [d] or [t] sound). The second way to make [l] is used after some vowels, like in the words *call*. This sound is made way in the back of the mouth by putting the back of the tongue close to the back of the mouths that there is only a small opening for air.

Korean ㄹ [l] is really difficult for Chinese students to pronounce. Almost all the beginners can't do it correctly. ㄹ [l] is different from Chinese r [ʐ] which tongue tip is rounded. When we pronounce ㄹ [l], the tongue tip is close to the alveolar. As the air stream passes the vocal, tongue tip makes a light stroke.

Sixth, English [h], Chinese h [x] and Korean ㅎ [x]. All the three sounds are voiceless fricatives. They sound similar. Some Chinese students simply regard the three as one: h [x] in Chinese, for example, they read *he*, *him*, *his* and 휴지 [hyuji] (toilet paper) 하나 [hana] (first) with h [x] and cause a very strong accent. In fact, they are different in positions of articulation.

When English [h] is made. air stream is released from the narrowly opened

glottis. Thus it is called the glottal fricative. /h/ is basically the sound that you make by opening your mouth wide and blowing air. Korean ㅎ [x] is similar to English one.

When Chinese h [x] is produced, air stream force out from the narrow interval between the back tongue and soft palate. Therefore, it should be called the tongue root fricative. h[x]'s friction sound is much hoarser than English [h].

2.3.4 A Brief Summary about Consonants

It is critical to remember that English, Chinese and Korean are different in ways of distinguishing words by consonants. Considering that Chinese people hardly do well in the Korean voiceless and voiced sounds, they should exert effort at this point. The confusion of consonants will cause obstacles in communication. Therefore, the distinction between confusing sounds is necessary.

2.4 Comparison of Syllables in English, Chinese and Korean

A syllable is the smallest unit of phonetic structure that is made up of one or more phones (single sounds or 'phonetic segments') and in turn makes up words. It is a rhythmic unit of speech. Syllable consists of three parts: onset, nucleus and coda.

2.4.1 Syllable Structures

There are 4 basic Syllable Structure types: V, CV, VC, CVC. They can be extended to various types of structures. V can be extended to be the combination of 2 or 3 different vowels: VV, VVV. C can be extended to be groups of consonants composed of 2 or 3 even 4 consonants: CC, CCC and CCCC. We will use the following table7 to illustrate the ways of forming syllables in each language and then compare and analyze the structures.

<TABLE 7> Ways of Forming Syllables

Types of Syllable Structure	English		Chinese		Korean	
	Possibility	example	Possibility	example	Possibility	example
C	-		-		-	
V	+	a[ə]	+	a[a]	+	아[a]
VV	+	our[auə]	+	wa[ua]	-	
CV	+	do[du:]	+	da[da]	+	나[na]
CVV	+	liar[laɪə]	+	gua[gua]	-	
VC	+	an[ən]	+	[an]	+	안[an]
VVC	+	hours[auəz]	+	wan[uan]	-	
CVC	+	good[gud]	+	yin[iŋ]	+	난[nan]
CVVC	+	liars[laɪəz]	+	guang[guan]		
V(V)CC	+	act[ækt]	-		-	
VCCC	+	acts[ækts]	-		-	
CVCC	+	chest[ʃɛst]	-		-	
CVCCC	+	guests[gests]	-		-	
CCV(V)	+	glue[glu:]	-		-	
CCVC	+	black[blæk]	-		-	
CCVCC	+	blooms[blu:mz]	-		-	
CCVCCC	+	prints[prints]	-		-	
CCVCCCC	+	glimpsed[glimpst]	-		-	
CCCV(V)	+	scour[skauə]	-		-	
CCCV	+	scrap[skræp]	-		-	
CCCVCC	+	scrable[skræbl]	-		-	
CCCVCCC	+	scrabled[skræblɪd]	-		-	
CCCVCCCC	+	scrambles[skræmbɪz]	-		-	

(11) English Syllables

- a. There is at least 1 vowel in one syllable.
- b. Consonants can appear before or behind the vowel in one syllable.
- c. Most of the syllables are closed syllables, while a few are open syllables. (Open Syllable—Syllables have no coda. Closed Syllable—Syllables have coda.)
- d. The combination of sounds is comparatively free, so the types of syllables are more than Chinese and Korean.

(12) Chinese Syllables

- a. There is at least 1 vowel in one syllable.
- b. Consonants can appear before or behind the vowel in one syllable.
- c. At most 3 consonants can appear in one syllable, e.g. 光 [gwaŋ].
- d. Group of vowels can be arranged sequentially in one syllable.
- e. Chinese has a small sum of syllables than English.

(13) Korean Syllables

- a. There is at least 1 vowel in one syllable.
- b. Consonants can appear before or behind the vowel in one syllable.
- c. At most, 2 consonants can appear in one syllable.
- d. Korean has the least syllables of the three.

2.4.2 Comparison of Syllabic Combination Rules

For English, the combination of consonants at the initial and the final of words reflect English syllabic combinations prominently.

- (14) For initial consonant groups, when syllables have onsets. Chinese or Korean onset (initial) can only be one consonant, while English can be one consonant, or two, even three.

a. C Consonant Group

- a.) All of the English consonants can be initial consonants except [ŋ] [ʒ].
- b.) Consonants [tʃ], [dʒ], [z] and [ð] can only be the initial consonant and can't be followed by other consonants.

b. CC consonant groups

- a.) [s]+one of consonants [p, t, k, m, n, l, j, w], eg. spit [spit], smell [smel]

- b.)

First C		Second C
stops [p, b, t, d, k, g]	+	[l, r, w, j]
Affricatives [f, s, h, v, θ, ʃ]		
nasal sounds [m, n]		
lateral [l]		

c.) [h, v, m, n, l] can only be combined with [j], eg. huge [hju:ʒ] view [vju:], lucid [lju:sid]

c. CCC Consonant Groups

a.) The first consonant must be [s], the second must be one of the voiceless [p, t, k], the third can only be one of [l, r, w, j]. eg. spread [sprɛd] splash [splæʃ], square [skweə]

b.) If the second consonant is [t], the third can only be [r] or [j], eg. strike [straɪk].

(15) For final consonant groups, English coda (cluster) includes all consonants coming after the nucleus. English close syllables permit single consonant ending and the combination of two, three even four consonants.

a. C Consonant Group

a.) All of the English consonants can be final consonants except [h, w, j].

b.) [ʒ] only appears at the end of French words and only after [i:, a:, u:, ei], eg. rouge [ru:ʒ], garage [ˈgæra:ʒ].

c.) [ð] only appears after [i, i:, u:, ei, ai, əu, au], eg. breathe [bri:ð], smooth [smu:ð].

b. CC Consonant Groups

a.) [m, n, l, s, ŋ] + C
eg. bank [bæŋk], stand [stænd], last [lɑ:st]

b.) C + [s, z, t, d, ð]
eg. puts [putz], beds [bedz], washed [wɒʃt], fifth [fɪfθ].

c. CCC Consonant Groups

Final consonant group CCC have two types: one is a final front consonant+a final consonant+a final back consonant, for example jumped [dʒʌmpt], banks [bæŋks], twelfth [twelfθ]. Another type is a final consonant+a final back consonant+a final consonant2. The final back consonant2 is also one of [s,z,t,d,θ], for example, ninths [nainəθs], sixth [siksθ], next [nekst].

d. CCCC Consonant Groups

- a.) consonant+a final consonant +a final back consonant+a final consonant2. eg. twelfths [twelfθs], prompts [prompts], glimpsed ['glimpst].
- b.) a final consonant and three final back consonants. eg. sixths [siksθs], texts [teksts], thousandths ['θauzəndθs].

- (16) In Chinese, not all initials can be spelled with any vowel final. The combination of initials and finals are restricted by many rules. The main rules are analyzed to be the following:
- a. [j, q, x] can only be pronounced with [i, ü]
 - b. [f, s, k, g, z, c, h] can't be pronounced with [i, ü]
 - c. [p, b, m, t, d] can be pronounced with [i], can't be pronounced with [ü]
 - d. [p, b, m, f] can't be pronounced with rounded vowels, except [u]
 - e. [n, l] and zero initial can be pronounced with rounded vowels.
 - f. Exceptional chart spellings (applied in syllables with initial consonants), where you would expect *uei* instead write *ui*(without initial *wei*); where you would expect *iou* instead write *iu* (without initial *you*); where you would expect *uen* instead write *un*(without initial *wen*); The final *uo* reduced to *o* after the initials *b, p, m, f*; thus; *bo po mo fo* (vs. *duo zhuo zuo kuo guo*); Drop the umlaut except in syllables beginning with *l* and *n*. eg. *liü*: 'green', *lu*: 'road', *nü*: 'female', *nu*: 'diligent'

(17) For Korean language, there are 27 final consonants in KL, 16 single final consonants, 11 final consonants groups, but all of them can only produce 7 phones: ㄱ[k], ㄴ[n], ㄷ[l], ㅁ[m], ㅇ[ŋ], ㅂ[p], ㅅ[t].

a. There are 16 single final consonants in Korean language, eg.

a.) ㄱ, ㄲ, ㅋ — ㄱ [k]

[목] [muk]: 목다[mukda](linger), 묶다[mukda](tied)

[박] [bak]: 박[bak](ladle), 밖[bak](outside)

[꺾] [kkeok]: 꺾다리[kkeokdari](the taller), 꺾다[kkeokda](fold)

[억] [eok]: 부엌[bu-eok](kitchen)

b.) ㄷ, ㅌ, ㅍ, ㅊ, ㅌ, ㅍ, ㅊ — ㄷ [t]

[낮] 낮[nat](day time) 낮[nat](face)

[곧] 곧[got](at once) 곳[got](place)

c.) ㅂ, ㅃ — ㅂ [p]

집[집](home) 짚[집](straw)

입[입](mouth) 잎[입](leaf)

d.) ㄹ — ㄹ [l] 서울seoul 살다[salda](live)

ㅁ — ㅁ [m] 남[nam](others) 마음[ma-eum](heart)

ㅇ — ㅇ [ŋ] 양[yang](sheep) 공장[gong jang](factory)

ㄴ — ㄴ [n] 손님[son-nim](guest) 만들다[mandeulda](conduct)

b. There are 11 final consonant groups in Korean language, eg.

ㄱ, ㄴ, ㄷ, ㄹ, ㅁ, ㅂ, ㅅ, ㅈ, ㅊ, ㅋ, ㆁ

a.) ㅅ[sa]--ㅅ다[sa-da]--없다[eop-da]

꺾[sa]--꺾다[sa-da]--없다[eop-da]

꺾[sa]--꺾다[sa-da]--뭉 [muk]

많다[manta]--싫다[silta]--괜찮다[gwaenchanta]

젊다[jeomda]--늙다[neopda]--밝다[bakda]

읊다[eupda]--붓다[bukda]--굽다[gumda]

답다[damda]--얹다[yapda]--닭[dak]

늑다[neukda] --삼다[samda]—흙[heuk]

b.) 뭉[muk]--뭉이[moksi](목시)

없다[eopda]--없어[eopseo](업서)

앉다[anda]--앉아[anja](안자)

훈다[hlda]--훈어[hulteo](훈터)

- 꺾[gol]--꺾에[golse](꺾세)
- 꺾다[jeomda]--꺾어서[jeolmeoseo](꺾머서)
- 을다[eupda]--을어서[eulpeoseo](을퍼서)
- 꺾다[bakda]--꺾아서[balgaseo](꺾가서)
- 꺾다[neopda]--꺾어서[neolbeoseo](꺾머서)
- c.) 꺾다[manta]--꺾으니[maneu-ni](마느니)
- 꺾다[kkeunta]--꺾어서[kkeuneoseo](꺾너서)
- 을다[olta]--을으니[orueni](오르니)
- 을다[ilta]--을으므로[ireumeuro](어르므로)

2.4.3 A Brief Summary about Syllables

Comparison of syllable imply that only vowels and very limited consonants can be used to end Chinese syllables, while consonants mostly serve as the final of syllables in English and Korean. The difference in ending syllables is possible to arouse Chinese students' difficulty in producing the English and Korean cluster. Rules of syllabic combination clarify the rules of the combination of vowels and consonants in each language. This can exert positive influence in people's daily speech.

2.5 Summary

Many students find that pronunciation is the hardest part of learning foreign languages. When they try to produce the similar sounds, they tend to confuse them with the sounds in their mother tongue or the previous learned languages and thus make phonological mistakes. The reason for this is that they have not done comparison studies enough, thus they are lack of the relative phonological knowledge.

Only if you compare the native language with other languages, you will really understand the languages. For this reason, this chapter introduces the pronunciation of English and KL by comparing them with Chinese. It indicates the distinctive features of similar sounds and the special sounds that only occur in a single language from different perspectives of vowels, consonants, and syllables. It compares both the articulation methods and positions.

Chapter 3 The Influence of L1 and L2 on L3

The former chapter deals with the phonological features of English, Chinese and KL by comparison. Next, we will compare these comparative results with the pronunciation of L3(second foreign language) KL of some subjects, in order to examine what problems they had in producing; whether the problems are related to L1(mother tongue) and L2(first foreign language) or not. All of the 20 students have Chinese as the first language, and had learned English as L2 for at least 10 years, some of them are students studying English and Japanese at Qiqihar University. They were at the beginning stage of their L3 Korean learning. They were confronted with many problems in producing the Korean sounds. In this chapter, We will outline their problems to see whether they are brought about by the influence of L1 and L2.

3.1 Vowels

The students usually produced the monophthongs of Korean , in the same way as they produce Chinese ones. Most of them opened the mouth too wide and exerted much force when producing Korean ㅏ [a], ㅓ [ə], ㅜ [o], ㅣ [i], ㅓ [ɛ], ㅕ [e], therefore their pronunciation sounded sharper and more resonant than standard Korean pronunciation. When they produced Korean ㅜ [u], they rounded their lips as they do in the production of Chinese /u/ and English /u:/.

Those students who have spoken English for years are found poor at sustaining the same sound quality when they produce Korean vowels. They cannot keep 'a' sound unchanged and they soon change the sound like 'ar'. The influence from L2-English adds a strong foreign accent to Korean pronunciation, for example, the students pronounced Korean ㅑ|/ne/(yes), as /nai/ in Chinese, etc.

3.2 Consonants

The foremost mistakes of the students in pronouncing the Korean consonants lie in confusing the Korean consonants with the Chinese and English ones, for example, they produced ㅈ|/ sound in the same methods as they did with /j/ sound and ㅊ as /ts/ in Chinese or English, thus had a strong foreign accent. For

example, most Chinese students want to learn *I love you* in Korean though they haven't known all the letters. Then 사랑해[saranghe](I love you.) is produced as /salanhe/.

The students tended to aspirate whenever they produced consonants. This led to the fact that their pronunciation sounded emotional to Korean people as if they were quarrelling.

Besides, the students appeared to have difficulty in producing $-\text{[u]}$ and $-\text{[ui]}$ since there is no similar sound in L1 and L2.

3.3 Syllables

The subjects in the case study had difficulty in producing coda of Korean. Korean syllables are most ended with consonants. Since all the subjects had got used to ending words with consonants[k] [t] [p] in English for years, they felt hard to end word with ㄱ [k] ㄷ [t] ㅍ [p], such as 목[mok](neck), 곧[got](at once), 집[jip](home). Thus, their pronunciations of the final consonants appeared to be very strong.

For those who had learned English before, they pronounced the loan words from English the same way as they spoke the original English words without producing the vowels. for example, they articulated 토마토 tomato as tomato[təma:təu].

Let's make a brief Summary of vowels, consonants, and syllables. The pronunciation of the students obviously reveals that the previous knowledge of L1 and L2 had phonological influence on the pronunciation of L3, specially, the influence of L1 is strong and persistent. The influence can sometimes either help or hinder the acquisition of the pronunciation of L3. For example, the previously acquired articulation method helped them produce sounds they had never met before; on the other hand, they tended to mix up the new pronunciation with what they learnt in the past and thus lead to the confusion. Their pronunciation will be improved if the positive influence is facilitated and negative influence is minimized.

3.4 Analysis to the Influence

The knowledge of prior languages can bring forth considerable influence on

L3. At the initial stage of KL learning, the applicants had a slight English coloring in their Korean pronunciation. This gradually vanished and was replaced by the prominent Chinese accent. According to Selinker(1981), the cross-linguistic influence of L1 and L2 on L3 acquisition is one of the basic processes of L3 learning. It is a learning strategy that learners adopt their previously learned knowledge in order to acquire the third language. The influence can be positive or negative. That is, The influence can either facilitate (positive influence) or inhibit (negative influence) the learning of L3. It is now recognized that all learners fall back on their mother tongues and previous learned languages, particularly in the early stages of language acquisition, and that this is a necessary process. The following are the elements influence L3 learning.

3.4.1 Negative Influence

Chinese students pronounce Korean in the same way as they pronounce Chinese or English; they have typical Chinese or English accents in Korean pronunciation, etc.

3.4.2 Positive Influence

Not all influences are negative. In the cases of some sounds such as Korean consonants, it is very difficult to master for the participants have no knowledge to fall back on in mother tongue. On the other hand, since Korean consonants share the same sounds with English, they master the sounds easily.

Younger children are able to pick up foreign languages without reference to their L1, but for adult learners, the mother tongue is a major resource for language learning. Cook(1995) argued that a multilingual learner should acquire an additional language in a different way and cross-linguistic influence will be more complex when three or more languages are in contact rather than two.

Variables That Affect Cross-linguistic Influence

The following will include a discussion of the variables that can interact to facilitate language influence in both L2 and L3 acquisition.

3.4.3 Variables

The first variable is proficiency. Learners often draw on their L1 and L2 to fill phonological gap when they lack the linguistic means of pronunciations in the L3. L1 and L2 phonemes remain highly active in beginning L3 learners due to their higher frequency and are therefore easily selected for production. While phonological influencer generally decrease as L3 proficiency increases (Dewaele, 1998), L2 influence diminishes twice as quickly as L1 influence (Hammarberg, 2001).

The second variable is language exposure and use. Amount of exposure has a strong effect on the likelihood of positive language influence. Increased L3 exposure and use leads to less language influence from L1 and L2. A further interesting point regarding the multilingual situation is that the amount of L2 exposure has a direct effect on its likelihood of being the source of influence on L3. In our study, that L2 had only a little influence on the learners of L3, while L1 had persistent influence is due to this reason.

The third variable is linguistic awareness. L3 learners do show instances of negative influence such as phonological interference and slower rate of acquisition, particularly when they are active bilinguals, passive bilingualism facilitates L3 acquisition because the learners are able to maximize the positive effects while reducing the potential negative influence.

The fourth variable is age. Younger learners are less able to make judgments about the phonological systems, whereas the older learners avoid the distant language as a source for cross-linguistic influence. (Cenoz, 2001)

The fifth variable is educational background. Educational background and literacy is a factor in positive language transfer. Learners who have highly developed language skills in their native language will most likely find that these skills facilitate foreign language acquisition.

The sixth variable is context. The level of formality can act as a constraint on the amount of language influence, since the speaker will tend to apply a higher level of control and attention during language production in a formal setting (Dewaele, 1998, 2001). The formal situation causes the L3 speakers to produce shorter utterances and more phonological errors, whereas the informal situation leads to more mixed utterances.

The seventh variable is language typology. The most revealing studies of the role of typology in L3 acquisition involve the comparison of L3 learners who have

a related L1 and an unrelated L2, to L3 learners who have an unrelated L1 and a related L2. Ringbom (1986) finds that typology overrides other factors such as frequency of use and amount of exposure.

The eighth variable is frequency. From the perspective of learner perception, an infrequent item will be considered 'psychologically marked' and therefore less transferable (Kellerman, 1995). From a language processing perspective, highly frequent L1 phonological items are likely candidates for unintentional phonological transfer due to their high activation levels during the early stages of L2 learning (Faerch & Kasper, 1986).

3.5 Summary

The transfer from L1-Chinese and L2-English to L3-Korean takes place at phonological level during the study of Korean of the students. Some of the transfer effects are negative, while others are positive. Different variables interact and lead to transfer during L3 production, and among the most important variables for any type of language transfer are proficiency and typology. The above-reviewed studies in the variables have shown that their effect can change depending on the status of the speakers and the languages involved. This points to the ways of increasing positive transfer by changing variables. Although variables interact in complex ways, if one language other than the target language scores higher in conditioning factors, there is a strong tendency for it to predominate in the role of external supplier. This conclusion is coherent to the result of the observation that Chinese language has larger and stronger influences on the students.

Chapter 4 Conclusion

4.1 Summary

Due to the frequent intercultural communication and cooperation, the significance of English and KL, as the communication tools, have become prominent. The cross linguistic comparison has proved to be one of the basic methods for phonological study. For this reason, this paper focuses on the comparison of English, Chinese and Korean pronunciation. A preliminary comparison has been made between vowels, consonants, syllables of the three languages at the phonological level. The thesis also analyses the influence of L1-Chinese and L2-English on Chinese students' pronunciation when they learn L3-Korean. Then it analyses why the influence occurs with evidence from real classroom observation.

In view of the results from the phonological comparison and its implication, we suggest that comparative studies need to be taken into account in the teaching and learning process of English and Korean, especially of the third language, KL. Besides, we suggest that one of the major goals in L2 and L3 teaching is to control or regulate relevant variables so as to facilitate positive influence and minimize negative influence.

However, only a limited trilingual phonological comparison has been done in this thesis. More comparative studies have to be attempted in the aspects of prosody, allophone, transformational rules, etc, in order to achieve an overall understanding of the similarities and differences among the three languages. It is sincerely hoped that this study can be of some value as a very crude trial in work in this field.

4.2 Significance

The aim of contrastive study of English, Chinese and KL pronunciation is to thoroughly dig out their differences as well as similarities, promoting the practical study for language. This paper makes a systematic comparison among English, Chinese and KL. This is helpful for both of the practical and theoretical promotion of language study.

4.2.1 Theoretical Significance

Since pronunciation plays a significant role in language, and usually the basic unit of a language can reflect the characteristics of the whole language system—the thesis conducts study from the elementary part—vowel, consonant and syllable. So the thesis will be favorable for a better understanding of the feature and nature of these three different languages.

English, Chinese and KL, belong to different language families—Indo-European, Sino-Tibetan and Ural-Altaiic respectively. Thus the analysis of features of vowel, consonant and syllable will help us to probe into the difference among those three languages.

4.2.2 Practical Significance

The systematic analysis of English, Chinese and KL pronunciation is beneficial for native-speaker of Chinese learning English or KL, or native-speaker of English or Korean learning Chinese. L3 learners, especially the beginners, are used to transmitting the phonetic habit of their mother tongue into their L3 speaking. With the help of the contrastive study among English, Chinese and KL, it will be much easier for L3 learners to understand and accept the phonetic difference among English, Chinese and KL, subsequently, absorb the phonetic essence of L3 effectively.

The comparative description of English, Chinese and KL pronunciation is also helpful for the composition of the phonetic teaching materials. Charles, C. Fries (1945) says: 'the most effective materials are those that are based upon a scientific description of the language to be learned, carefully compared with a parallel description of the native language of the learner.' As far as this thesis is concerned, it has made a careful, scientific and parallel description of the differences among English, Chinese and KL.

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<Appendix 1> The International Phonetic Alphabet

THE INTERNATIONAL PHONETIC ALPHABET (2005)

CONSONANTS (PULMONIC)

	Bilabial	Labio-dental	Dental	Alveolar	Post-alveolar	Retroflex	Palatal	Velar	Uvular	Pharyngeal	Epi-glottal	Glottal
Nasal	m	ɱ		n	ɳ	ɲ	ɲ	ŋ	ɴ			
Plosive	p b	ɸ β		t d	ʈ ɖ	ʈ ɖ	c ɟ	k ɡ	q ɢ		ʔ	ʔ
Fricative	ɸ β	f v	θ ð	s z	ʃ ʒ	ʂ ʐ	ç ʝ	x ɣ	χ ʁ	ħ ʕ	ħ ʕ	h ɦ
Approximant		ʋ		ɹ		ɻ	j	ɰ				
Trill	ʙ			ʀ					ʀ			
Tap, Flap		ⱱ		ɾ		ɽ						
Lateral fricative				ɬ ɮ		ɭ	ɥ	ɮ				
Lateral approximant				l		ɭ	ʎ	ʟ				
Lateral flap				ɺ								

Where symbols appear in pairs, the one to the right represents a modally voiced consonant, except for murmured *f*. Shaded areas denote articulations judged to be impossible. Light grey letters are unofficial extensions of the IPA.

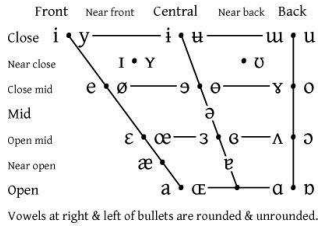
CONSONANTS (NON-PULMONIC)

Anterior click releases (require posterior stops)	Voiced implosives	Ejectives
ɔ Bilabial fricated	ɓ Bilabial	ʼ Examples:
ɮ Laminar alveolar fricated ("dental")	ɗ Dental or alveolar	ɓ' Bilabial
ɠ Apical (post)alveolar abrupt ("retroflex")	ɗ Palatal	ɗ' Dental or alveolar
ɠ Laminar postalveolar abrupt ("palatal")	ɠ Velar	ɠ' Velar
ɠ Lateral alveolar fricated ("lateral")	ɠ Uvular	ɠ' Alveolar fricative

CONSONANTS (CO-ARTICULATED)

- ɱ Voiceless labialized velar approximant
- ɰ Voiced labialized velar approximant
- ɥ Voiced labialized palatal approximant
- ɕ Voiceless palatalized postalveolar (alveolo-palatal) fricative
- ʝ Voiced palatalized postalveolar (alveolo-palatal) fricative
- ɧ Simultaneous x and ʃ (disputed)
- kp̚ ts̚ Affricates and double articulations may be joined by a tie bar

VOWELS



SUPRASEGMENTALS

- ˈ Primary stress
- ˉ Extra stress
- ˌ Secondary stress [ˌfoʊnəˈtʃən]
- ː Long
- ˑ Half-long
- ˑ Short
- ˑ Extra-short
- ˑ Syllable break
- ˑ Linking (no break)
- INTONATION
- ˑ Minor (foot) break
- ˑ Major (intonation) break
- ˑ Global rise
- ˑ Global fall

TOPE

- Level tones
- ˥ Top
- ˦ High
- ˧ Mid
- ˨ Low
- ˩ Bottom
- Tone terracing
- ˥˥ Upstep
- ˥˩ Downstep
- Contour-tone examples:
- ˥˩ Rising
- ˩˥ Falling
- ˥˩˥ High rising
- ˥˩˩ Low rising
- ˥˩˥˩ High falling
- ˥˩˥˩ Low falling
- ˥˩˥˩ Peaking
- ˥˩˥˩ Dipping

DIACRITICS

Diacritics may be placed above a symbol with a descender, as ɰ. Other IPA symbols may appear as diacritics to represent phonetic detail: ɸ (fricative release), ɸ (breathy voice), ʔ (glottal onset), ɸ (epenthetic schwa), ɸ (diphthongization).

SYLLABICITY & RELEASES	PHONATION	PRIMARY ARTICULATION	SECONDARY ARTICULATION
ɳ ɳ	Syllabic	ɳ ɳ	Voiceless or Slack voice
ɸ ɸ	Non-syllabic	ɸ ɸ	Modal voice or Stiff voice
ɸ ^h ɸ ^t	(Pre)aspirated	ɸ ^h ɸ ^t	Breathy voice
ɳ ⁿ	Nasal release	ɳ ⁿ	Creaky voice
ɳ ^l	Lateral release	ɳ ^l	Advanced
ɳ ^r	No audible release	ɳ ^r	Retracted
ɸ ^β	Lowered (β is a bilabial approximant)	ɸ ^β	Centralized
		ɸ ^ɹ	Raised (ɹ is a voiced alveolar non-sibilant fricative)

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저작물 이용 허락서

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	(영어) Comparative Study on English, Chinese and Korean Pronunciation				

본인이 저작한 위의 저작물에 대하여 다음과 같은 조건 아래 조선대학교가 저작물을 이용할 수 있도록 하락하고 동의합니다.

-다 음-

1. 저작물의 DB구축 및 인터넷을 포함한 정보통신망에의 공개를 위한 저작물의 복제, 기억 장치에의 저장, 전송 등을 허락함
2. 위의 목적을 위하여 필요한 범위 내에서의 편집과 형식상의 변경을 허락함. 다만, 저작물의 내용변경은 금지함.
3. 배포 · 전송된 저작물의 영리적 목적을 위한 복제, 저장, 전송 등은 금지함.
4. 저작물에 대한 이용기간은 5년으로 하고 ,기간종료 3개월 이내에 별도의 의사 표시가 없을 경우에는 저작물의 이용기간을 계속 연장함.
5. 해당 저작물의 저작권을 타인에게 양도하거나 출판을 허락을 하였을 경우에는 1개월 이내에 대학에 이를 통보함.
6. 조선대학교는 저작물 이용의 허락 이후 해당 저작물로 인하여 발생하는 타인에 의한 권리 침해에 대하여 일체의 법적 책임을 지지 않음.
7. 소속 대학의 협정기관에 저작물의 제공 및 인터넷 등 정보 통신망을 이용한 저작물의 전송 · 출력을 허락함.

동의여부: 동의 () 반대()

2009년 2월

저작가: 교운 (인)

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