



Sound System of Hanyuan Variety in Sichuan Province, China

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Abstract. For each language, there are different kinds of varieties because of geographic or historic reasons. The variety of Hanyuan is a language used by the locals living in Hanyuan, Sichuan province, China. To make effective communication with them, it is necessary to know something about the variety. This article gives a general introduction of this variety, including its consonants, vowels and tones on the basis of some academic papers and the author's first-hand experience as a local to conclude that the variety of Hanyuan has 20 consonants, 36 vowels and 4 tones.

Keywords: Sound system · Hanyuan variety of Chinese · Brief introduction

1 Introduction

Hanyuan is located in the south of Ya'an City, Sichuan province, China. It is adjacent to Jinkouhe District of Leshan City and Hongya County of Meishan City in the East, Ganluo County of Liangshan Prefecture in the south, and Gan County in the West and Yingjing County of the city in the north. On November 1st, 2009, the Pubugou Hydropower Station was successfully impounded and the seat of the county was relocated. And Hanyuan is located in the eastern edge of the northern section of Hengduan Mountains, which is the transition zone between Sichuan Basin and Tibet Plateau. And it is the watershed between Liusha River and Yingjing river. Hanyuan County historically belonged to the ethnic corridor area, the combination zone of Han and Yi people, and its population rose with the feudal dynasty. It has great liquidity. During the period of the Republic of China, immigration was relatively balanced. Hanyuan county plays a very important role in Yaan even in Sichuan historically and economically.

The variety of Hanyuan is a language used by the locals living in Hanyuan, which is located in the south of Ya'an city, Sichuan province with the population of 330,000. It has 20 consonants, 36 vowels and 4 tones.

The illustration of the variety is based on an academic thesis combined with the author's first hand information.

2 Consonants

p	p [po] “slope”
b	p ^h [p ^h o] “wave”
t	t [tu] “earth”
d	t ^h [t ^h in] “the fourth”
k	k [kei] “cough”
g	k ^h [k ^h uo] “cut”
m	m [mei] “beauty”
n	n [nu] “six”
ŋ	ŋ [ŋaŋ] “up”
f	f [fo] “buddha”
v	[vu] “house”
s	s [si] “teacher”
z	ts [tsen] “people”
c	ts ^h [ts ^h i] “eat”
ch	tɕ ^h [tɕ ^h i] “late”
r	ʒ [ʒi] “sun”
j	tɕ [tɕ in] “enter”
q	tɕ ^h [tɕ ^h in] “green”
x	ɕ [ɕ in] “heart”
h	x [xuo] “drink”

According to the definition given by the Oxford Dictionary, a consonant refers to a speech sound made by completely or partly stopping the flow of air being breathed out through the producers’ mouth. Compared with English and Chinese madarin, the sound /l/ does not occur in the variety of Hanyuan. The locals take nasals as the replacement of /l/, so the nasals appear very often in this variety. /p/, /p^h/, /m/ are bilabials with the upper lip as the passive articulator and the lower lip as the active articulator. They are produced by the closure of the upper and lower lip [1]. /f/ and /v/ are labiodental. The pronunciation of /f/ is quite similar to the pronunciation of the same sound in English while /v/ is special, for there is no such sound in Mandarin, but in Hanyuan variety, the local people do have this one. They use their lower lip as the active articulator to get close to the passive articulator-upper teeth to produce it [2]. Consonants /t/, /t^h /, /n/, /s/, /ts/, /ts^h/ are alveolars with the alveolar ridge as the passive articulator and the tip or blade of the tongue as the active articulator. /tɕ /, /tɕ^h /, /ɕ / are similar to English palatals, but there is something different between them. In English, palatals are produced with the hard palate as the passive articulator and front of the tongue as the active articulator [3]. While in Hanyuan variety, the three are produced with the hard palate as the passive articulator and the blade of the tongue as the active articulator. /k/, /k^h/, /ŋ/, /x/ are velars with the soft palate as the passive articulator and the back of the tongue as the active one. And /tɕ^h /, /ʒ/ are retroflex with the front part of the tongue as the passive articulator and the tip of the tongue as the active one [4] (“Table 1”).

From the English coursebook, *Phonetics and Phonology*, people learn that Phonetics can be the guidebook to know the analysis of any sound people make. And in order to accomplish this, people need to know about the speech organs, the place of articulation

Table 1. The Consonant System of Hanyuan Variety

	Bilabial	Labiodental	Alveolar	Retroflex	Palatal	Velar
Plosive	p p ^h		t t ^h			k k ^h
Nasal	m		n			ŋ
Fricative		f v	s ts ts ^h	tʂ ^h ʐ	tɕ tɕ ^h ç	x

and the manners of articulation, etc. According to *Peter Ladefoged* and *Keith Johnson*, in their book named *A Course in Phonetics*(6th edition), there are several manners of articulation, which are plosive, nasal, fricative, affricate, approximant, lateral, tap, flap, trill, etc. Here, the author would like to take plosive and nasal for example. There are six sounds in plosives. They are /p/, /b/, /t/, /d/, /k/, /g/. While pronouncing the six sounds, people need to close their upper lip ad lower lip to form a complete closure and the velum is raised. People need to hold the closure at the holding stage and then release it. To put it simple, plosives are sounds which are made by stopping the airflow and release it suddenly. While pronouncing these sounds, the vocal cords are not vibrated in /p/, /t/ and /k/ but vibrated in /b/, /d/ and /g/. Hence /p/, /t/ and /k/ are voiceless while /b/, /d/ and /g/ are voiced. Hanyuan Variety is quite similar in this aspect.

According to *Peter Ladefoged* and *Keith Johnson*, in their book named *A Course in Phonetics*(6th edition), if the airstream is obstructed in the oral cavity, but the soft palate is down to let the airstream pass through the nasal cavity, people will make nasals. And there are three sounds in the manner of articulation–nasals, which are /m/, /n/, and /ŋ/. while pronouncing these three sounds, there should be a complete closure for the upper lip and lower lip. And the velum is lowered and the airstream comes out of the nasal cavity. People need to hold the closure first and then release it. While pronouncing these sounds, vocal cord is vibrated, so all these three sounds are voiced. And Hanyuan Variety is quite similar in this aspect, too.

Learning a new variety or a new dialect or even a new language can be on the basis of some other languages, like English, for there are some similarities among them since they are the products of the human beings, even though they have some differences among them too, because of geographic or historic or some other reasons.

3 Vowels

According to the definition given by the dictionary, a vowel is a speech sound in which the mouth is open and the tongue is not touching the top of the mouth or the teeth. Each language has a vowel system, which is really very important. Because it is the very essential part to form a syllable and it is a necessary part to form a word. In English, there are pure vowels and diphthongs while in Hanyuan variety, there are pure vowels, diphthongs and triphthongs. And there is one more special thing in Hanyuan variety, that is, vowels with nasals, which as the name suggests, are the vowels ending with nasals.

3.1 Monophthongs

a [fa] “rich”
 o [wo] “nest”
 e [ɤ] “well”
 i [ti] “kick”
 u [vu] “house”
 ü [ɛy] “weak”
 ə[ə] “there”
 æ[tæn] “spread”

Monophthong refers to a vowel (a pure vowel) where there is no detectable change in quality during a syllable. In Chinese mandarin, there are six monophthongs, which are / a o e i u ü /. And take the last one /ü/ for example. It is after the sound/u/. While pronouncing the monophthong /ü/, the tongue position is back and the tongue height is close and the lip position is rounded. Therefore the three term label of this monophthong is close back rounded. It is closer, higher and rounder than the sound /u/. And the sound /u/ is similar to the sound /u:/ in English.

In Hanyuan variety, there are two more monophthongs compared with mandarin, which are /ə/ and /æ/. Their pronunciations are similar to the pronunciation of the two in English.

3.2 Diphthongs

ai [mai] “sell”	ao [nɑʊ] “naughty”
ou [xou] “after”	ei [pei] “bah”
ui [xwei] “can”	ddotueüe [nɥɛ] “torture”
io [te hjo] “see”	ua [xwa] “flower”
uo [xwo] “cheat”	ie [ɛjɛ] “snow”
ia [ɛja] “blind”	

There are eleven diphthongs in Hanyuan variety. Some of them are quite similar to English pronunciation, such as /ei/, /ai/,etc., while some of them are not, such as /jo/, /ja/,etc., which are some of the very sounds to tell Hanyuan variety from the Chinese mandrin.

3.3 Triphthongs

uai [xwai] “bad” iou[ɛ iou] “show”
 iao [mjɑʊ] “not”

There are three triphthongs in Hanyuan variety. While pronouncing them, they need to slide from the first to the last smoothly. Because it is a cluster of three pure vowels in form, you need to slide from the first one to the last one naturally and smoothly.

3.4 Vowels with Nasals

an [sæn] “mountain”	uan [xuæn] “happy”
ian [tʃɛn] “field”	üan [tɕhyæn] “circle”
en [mən] “stupid”	eng [nɤŋ] “quarrel”
ang [xɑŋ] “worried”	ong [nʊŋ] “do”
iang [ɕjɑŋ] “think”	iong [ɕjʊŋ] “fierce”
in [min] “take a bite”	ün [xyn] “smoke”
un[xuen] “dizzy”	uang [xuɑŋ] “yellow”

The above fourteen vowels are different from vowels in English. They are vowels with nasals [5]. There is no /l/ in Hanyuan variety, the locals prefer to use nasals to take place of the sound/l/, and they use it quite often. Even for their vowel system, there is a special category, i.e., vowels with nasals, which, as the name suggests, are the combination of the vowels and nasals. They are all ending with a nasal.

4 Tones

mid-level	bā eight	mid-rise	bá make
low-rise	bǎ father	falling	bà occupy

Hanyuan variety is a dialect of Yaan Dialect which is a sub-dialect of Sichuan Dialect. There are 4 kinds of tones in it. And it is a variety of Chinese Mandarin. The first one is mid-level, for example, bā, meaning, eight, in English, which pronounces like /ba/ in English with the mid-level tone. And the second one is the mid-rise, bá, meaning, make, which pronounces like /ba/ in English with the mid-rise tone. The third one is the low-rise, bǎ, meaning, father, which pronounces like /ba/ in English with the low-rise tone. The last one is falling tone, bà, meaning, occupy, which pronounces like /ba/ in English with the falling tone. Using different tone in the process of communication expressing different meaning or attitudes even different implications.

After the general introduction of the sound system of the Hanyuan variety, there are several terms need to be made clear of, which are phoneme, allophone and distinctive features to help learners understand the sound system better. A phoneme is a sound which has function in a language. It is regarded as the smallest unit to distinguish meaning between sounds in a language. And people should use // to mark the phonemes. For example, for the words fan and van in English, they have the same vowel /æ/ and the same ending consonant /n/ but with the different initial consonants /f/ and /v/ to have the function by giving the different meanings in these two words. While doing the phonemic analysis people have two categories. One is minimal pair which refers to pairs of words differing only one element in the identical element, like /p/ and /b/ in the words pat and bat or /æ/ and /ɔ/ in the words pat and pot. And the other is sub-minimal pair which refers to pairs of words differing in more than one element, like the word record in noun /rekɔ:d/ and in verb /rɪˈkɔ:d/ with the different word stresses on the first syllable and the

second syllable and different vowels /e/ and /i/. The introduction of the sound system Hanyuan variety is on the basis of the way of introducing English.

Minimal pair in English:

fan /f/ pat /p/
 van /v/ bat /b/
 pat /æ/ pot /ɔ/

Minimal pair in Hanyuan variety:

p p [po] “slope”
 b p^h [p^ho] “wave”
 t [te] “special”
 d t^h [t^he] “get”

From the word formation in the dictionary, the prefix allo- in this word allophone comes from allos in Greek, meaning “others”, therefore it can be concluded that an allophone is an other way for a phoneme. One phoneme can have more than one allophone, so the allophone is the variant or the realization of the phoneme. And for the occurrence of allophone, there are two categories. One is free variation and the other is complementary distribution. The former doesn’t change the meaning of the word and it occurs under the same circumstance while the latter occurs in different environment. For example in English, [ph]and [p] in the words, like special, speciality. When [p] is after [s], it pronounces as [b].

[ph] elsewhere: people, play

[p]

[p] after [s]: special, speciality While in Hanyuan variety, according to the author’s knowledge, there is no [p] after [s] for [ph].

f f [fu] “fortune”
 v v [vu] “house”
 s s [si] “teacher”
 z ts [tsi] “day”

Distinctive features refer to features of sound system of a language serving as the crucial, necessary and important distinguishing factor between two phonemes, like the distinctive feature of voicing, which distinguishes /s/ and /z/ in the words sin and zin in English and s s [si] “teacher”, z ts [tsi] “day” in Hanyuan variety, and manner of articulation, tongue height, tongue position and lip rounding, etc. While in Hanuan variety, there are similar phenomenons too.

5 Conclusion

For each language, there are a lot of different varieties because of the geographic and historic reasons [6]. To make an effective communication, it is necessary to know something about different varieties in a language. Hanyuan variety, as the first language of the author, is one of the varieties of Sichuan dialects. This essay gives a general introduction of Hanyuan dialect to enrich the studies of the languages and help people who are interested in the variety understand it better.

Authors' Contributions. This paper is independently completed by Xiaoyan Li.

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