

Phonemic status of i and ū in Written Manchu vowel harmony

DO Jeongup
Seoul National University, KOREA

1. Introduction

This study aims to provide a detailed description of the phonemic status of i and ū in Written Manchu vowel harmony.

Previous studies reported that the vowel harmony of Written Manchu is more complex than that of tungusic languages. The complexity of Written Manchu vowel harmony can be attributed to issues related to the phonemic status of i and ū. This issue has already been analyzed and dealt with several times in previous studies. In general, it is known that i is a neutral vowel, but i-only stems can take both non-RTR and RTR endings. In the phonetic case of ū, there are two methods of interpretation, except for the method by which Kim (1989, 1990) propose. The first argument considers ū to be distinctive from u behind dorsal consonants, but neutralized to u behind non-dorsal consonants. The second argument assumes that ū has no phonemic value and remains only as a letter.

Unlike previous studies, however, I argue that i-only stems act as RTR stems. In addition, I suggest the possibility that ū and u can be distinctive of each other even behind non-dorsal consonants in the Written Manchu period. Kim (1989, 1990) suggested that Cheng hak um (清學音) reflects the six vowel system where the distinction between u and ū existed in the pre-Written Manchu period. He also compared Manchu with Manchu's cognates, Nanai and Orochi, and argued that u of Manchu can be reconstructed into ū. In this study, I will argue that the arguments of Kim (1989, 1990) can also be applied to the Written Manchu document. In other words, the Manchu shown in the Written Manchu document also reflects the six vowel system.

A bibliography of this study is shown in the table below.

Table 1. Texts used in this study

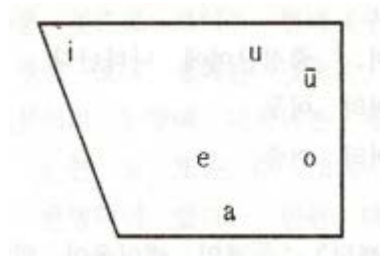
Titles	Publication dates	Holding Institution	卷(volumes)/ 冊(books)
滿文老檔(Lao) Man Wen Lao Dang	1778	內閣	180vol.
三國志(San) San Guo Zhi	1723~1735	Bibliothèque nationale de France	24 vol./8 books
金瓶梅(Jin) Jin Ping mei	1708	中國國家圖書館	40vol.
滿漢西廂記(Xi) Man Han Xi Xiang Ji	1710	Seoul National University Library	4 vol./4 books

2. Vowel inventory in Written Manchu in previous studies

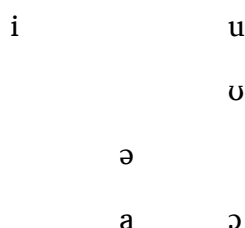
Since Written Manchu vowels are reconstructed from written documents, the phonemic status of Written Manchu vowels has sparked considerable controversy in the study of Manchu phonology. The controversy centers around the phonemic status of *ū* and *u*. The reason for this controversy is that *ū* has a letter that differs from *u* only after the dorsal consonants *k*, *g*, and *h*. Despite the distributional imbalance, *ū* was included in the vowel inventory in most studies as the vowel letters in Written Manchu are *i*, *a*, *e*, *u*, *ū* and *o*. However, there have been studies that identified the vowel system of Written Manchu with five vowels by excluding *ū* from the vowel inventory. Studies that considered the vowel inventory of Written Manchu as six vowels also made different claims about the vowel harmony system. In essence, the main issue is whether *u* is a neutral vowel or not.

First, I will review studies considering the vowel inventory of Written Manchu as six vowels. Adam (1873: 11) regarded *a*, *o* and *ū* as strong vowels, *e* as a weak vowel, and *i* and *u* as neutral vowels, and many studies followed Adam (1873)'s classification (Ikegami 1955, Haenisch 1961, Aisin-Gioro 1983). But even in studies that did not follow Adam (1873), there are many studies claiming that Written Manchu has six vowels (Hayata 1980, Kim 1989, Li 1996, Zhang 1996, Ko 2012, Joseph 2018). However, there was no consensus on the precise location of each vowel among these studies. The biggest difference among these studies is that, unlike Kim (1989: 66), who considered *o* (or *ɔ*) to be similar in height as *e* (or *ə*), other studies considered *o* (or *ɔ*) to be similar in height as *a*. Among them, the vowel inventory in Written Manchu presented by Kim (1989) and Ko (2012) is as follows.

(1) Vowel inventory in Written Manchu (Kim 1989: 66)



(2) Vowel inventory in Written Manchu (Ko 2012: 247)



While these studies are similar in that they regard \bar{u} as an RTR vowel (or non-ATR vowel or light vowel), they make somewhat different claims about the status of u . The arguments of these studies can be broadly divided into two categories. Kim (1989) and Ko (2012) regarded u as a non-RTR vowel (or dark vowel) within the same class as e .¹ On the other hand, Zhang (1996) and Li (1996) argued that u is within the same class as e after a dorsal consonant, but that u becomes a neutral vowel after a non-dorsal consonant. In other words, even in a study that considered Written Manchu as a six-vowel system, the vowel harmony system is interpreted differently depending on how the relationship between \bar{u} and u is understood.

Although the argument is somewhat different, there are studies that consider the Written Manchu vowel inventory as five vowels (Seong 1981, Ard 1984). For instance, Seong (1981) argued that the letter denoted by \bar{u}

¹ From now on, in this study, vowel harmony is described as the opposition between RTR vowel and non-RTR.

is not a single phoneme but an allophone of *u* or *o*. Moreover, Ard (1984: 74) argued that there are six surface vowels in early Manchu but that there are only five surface vowels in later Manchu, as *u* and *ū* have merged. In conclusion, both studies regarded the vowel inventory of Written Manchu as *i*, *a*, *ə*, *o*, *u*. Vago (1973) and Odden (1978) did not regard the Written Manchu vowel inventory as five vowels but claimed that the phonemes appearing on the surface were *i*, *a*, *e*, *o*, *u*.² All studies that advocated the five-vowel system excluded *ū* from the vowel inventory. Accordingly, these studies identified *u* as a neutral vowel.

In summary, the central point of discussion in previous studies is whether *ū* has the status of a phoneme and whether *u* plays the role of a neutral vowel. Therefore, this study will examine such concept and assess whether *ū* has the status of a phoneme and whether *u* plays the role of a neutral vowel. Of these two problems, this paper will first determine whether *u* is a neutral vowel or not. This is because *ū* is more likely to have status as a phoneme if *u* is not a neutral vowel. In order to reveal whether *u* is a neutral vowel or not, it is necessary to discuss the characteristics of the neutral vowel *i*. This is because *u* is highly likely to show the same phonological phenomenon as *i* if *u* has the status of a neutral vowel. Therefore, I discuss the nature of *i* as a neutral vowel in Chapter 3.

² Vago (1973) and Odden (1978) are erroneous in that they regard *e* as a front mid vowel.

3. Characteristics of i as a neutral vowel

In many previous studies, i and u were considered as neutral vowels. In this chapter, we will examine the phonological phenomenon of i as a neutral vowel. Examples that combine the verb stem with -HA are as follows:³

(3) Neutral vowel i

- a. dali-ha 'to block off'
sita-ha 'to be late'
- b. ebi-he 'to be full'
kice-he 'to be diligent'

(4) i-only stems attached by HA

- a. ili-ha 'to stand'
isi-ka 'to reach'
- b. ji-he 'to come'
bi-he 'to exist'

In the example above, i acts as a neutral vowel. But for i-only stems, some i-only stems take -Ha while other i-only stems take -He. That is, i-only stems act either as RTR stems or non-RTR stems. This observation demonstrates that contrasting characteristics between /i/ and /ɪ/ existed even before Written Manchu. In particular, the fact that /i/ and /ɪ/ are opposite to each other in most tungusic languages supports this claim. However, the interest of this study is whether i was a completely neutral vowel during the Written Manchu period. A noteworthy point is found when examining the example of i-

³ In this study, -rA is excluded from the discussion related to vowel harmony. The reason is that the realization of -rA in the vowel harmony of Written Manchu is unique. According to Li (1996: 170), after e, a, and o, the vowel of -rA simply copies the stem-final vowel, but after i, u, and ū, -rA is realised as -re.

only stems attached by HA in more detail. That is, the examples presented in (4b) are all one syllable. In particular, the non-past forms of *ji-* and *bi-* are irregular forms such as *jidere* and *bisire*, so it is difficult to regard them as representative examples reflecting the phenomenon of vowel harmony.

Regarding the vowel harmony of *i*, a noteworthy phonological phenomenon is the labial harmony of Written Manchu. The labial harmony of Written Manchu appears only when *o* appears in two or more syllables consecutively (Ko 2011: 159).

(5) Labial harmony in Written Manchu

a.	<i>komso</i>	‘little’	<i>komso-kon</i>	‘rather little’
	<i>doro</i>	‘morality’	<i>doro-nggo</i>	‘moral’
	<i>bodo-</i>	‘to think’	<i>bodo-ho</i>	‘(someone) thought’
b.	<i>so-</i>	‘to strew’	<i>so-ha</i>	‘(someone) strewed’
	<i>doo-</i>	‘to cross’	<i>doo-ha</i>	‘(someone) crossed’

When applying this concept to *i*, an interesting phenomenon occurs. In the materials of this study, 11 verb stems of (C)*i*(C)*Ci-* are found. The past participle endings of these verb stems are all *-Ha*.

(6) The past form of (C)*i*(C)*Ci-*

a.	<i>ifi-</i>	‘to sew’	<i>ifi-ha</i>
b.	<i>iji-</i>	‘to comb’	<i>iji-ha</i>
c.	<i>ili-</i>	‘to stand’	<i>ili-ha</i>
d.	<i>isi-</i>	‘to reach’	<i>isi-ka</i>
e.	<i>kimci-</i>	‘to examine’	<i>kimci-ha</i>
f.	<i>sifi-</i>	‘to wear a hairpin’	<i>sifi-ha</i>
g.	<i>siji-</i>	‘to sew with very fine stitches’	<i>siji-ha</i>
h.	<i>sili-</i>	‘to select’	<i>sili-ha</i>
i.	<i>simi-</i>	‘to suck’	<i>simi-ha</i>

j. sisi-	‘to insert’	sisi-ha
k. sibki-	‘to ponder deeply’	sibki-ha

The fact that the 11 stems show the same vowel harmony pattern without exception indicates that *i* functions as a completely neutral vowel. That is, -Ha is selected for the *i*-only stem.

I have demonstrated in Written Manchu that *i* functions as a neutral vowel. Now the next question is whether *u* is a neutral vowel or not. Whether *ū* is a phoneme or not depends on what the answer to this question is. Thus, in the next chapter, I will discuss the problem of *u* in vowel harmony.

4. The problem of *u* in vowel harmony

In many previous studies, *u* is often regarded as a neutral vowel. If we look at the past form of the verb stem with *u*, this characteristic is revealed.

(7) Neutral vowel-like properties of *u*

a.	yabu-	‘to go’	yabu-ha
	yalu-	‘to ride’	yalu-ha
	jura-	‘to set out’	jura-ka
	uda-	‘to buy’	uda-ha
b.	ebu-	‘to dismount’	ebu-he
	dedu-	‘to lie down’	dedu-he
	mute-	‘to be able’	mute-he
	dule-	‘to pass’	dule-ke

It is important to note that *u* stands for non-RTR vowels only and *ū* stands for RTR vowels after *k*, *g*, and *h*. This characteristic is evident in the table presented by Seong (1968: 101). The following table examines the frequency

of vowels appearing in the second syllable when the first syllable is *ku*, *gu*, *hu*, or *kū*, *gū*, and *hū*.⁴

Table 2. The frequency of vowel of the second syllable according to first syllable *u* or *ū*

	a	e	i	o	u	ū
u	21	119	55	3	143	1
ū	225	3	81	0	44	7

Based on observations delineated in this table, Kim (1989: 52) revealed the following facts.

(8) Facts revealed through table 2

- a. *u* is a vowel of the same class with *e*.
- b. *ū* is a vowel of the same class with *a*.
- c. *i* is a neutral vowel that matches any class vowel.

Seong (1981: 95) presented minimal pairs between *u* and *ū* after dorsal consonants in Written Manchu.

(9) Minimal pairs between *u* and *ū* after dorsal consonants

- | | | | |
|----------------|------------|-------------|------------------------------|
| a. <i>kuru</i> | ‘height’ | <i>kūru</i> | ‘a kind of Mongolian cheese’ |
| b. <i>ulhu</i> | ‘squirrel’ | <i>ulhū</i> | ‘reed’ |
| c. <i>suku</i> | ‘fleabane’ | <i>sukū</i> | ‘leather’ |

⁴ Among the 21 words that come with *a* after the first syllable *u*, 19 words are *guCV*-form borrowed from Chinese characters, so it is difficult to accept them as meaningful results. Therefore, I do not accept the case where *a* appears after *u* as a counterexample.

Due to these characteristics of u and ū, the following argument was made in several studies (Li 1996: 157, Zhang 1996: 82-83, Drescher 2009: 178). First of all, u and ū contrast each other, in which they are preceded by one of the dorsals. Next, u and ū are neutralized to u where they are preceded by one of the non-dorsals.

However, the contrast between u and ū does not occur only behind the dorsal consonant in Written Manchu.

(10) minimal pairs of u and ū after non-back consonant (Zhang 1996: 43)

butun	‘hibernation’	butūn	‘crock, large jar’
mungku	‘a frozen fish’	mūnggu	‘bird’s nest’
tu-	‘to hunt’	tū-	‘to hit, to beat’
tuku	‘the outside’	tūku	‘wooden mallet’
ulen	‘irrigation ditch’	ūlen	‘house’
urgen	‘length’	ūren	‘a Buddhist image’

Zhang (1996: 43) points out that these words are rare in Written Manchu and synchronically u and ū had largely merged into u in environment other than after non-back consonant. Furthermore, Kim (1989: 53-56) argued that u and ū contrast each other in environment other than after non-dorsal consonants in the pre-Written Manchu period. He reviewed the Korean transcription for Manchu in Cheng hak um (清學音), which is thought to be an 18th century Spoken Manchu material, stating that no evidence could be found within Written Manchu.

(11) Comparison between Written Manchu and Korean transcription in Cheng hak um (清學音)

a. ū(Written Manchu) : ㅜ(Yale romanization: o)(Cheng hak um)
 tanggū thangko ‘one hundred’

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gūlha	kolkaho	‘boot’
gūsin	kosi	‘thirty’
gūwa	kwa	‘other’
hūdun	honton	‘fast’
hūla-	holla	‘to shout’
indahūn	intaho	‘dog’
jakūn	cyakon, cyakkwun	‘eight’
akū	ako, akkwu	‘there is not’
jugūn	tyokon, tyokwun	‘road’

b. u(Written Manchu) : ㅜ(Yale romanization: o)(Cheng hak um)

buda	potahuy	‘cooked rice’
juraka	cyolaka	‘(someone) began a journey’
juwan	tyoa	‘ten’
sukū	sokko	‘leather’
šusiha	syolka	‘a whip’
tuwa	thowa	‘fire’
tuwa-	thowamey	‘to look’
ufaraha	opwulaka	‘(someone) died’
yalu-	yalno	‘to ride’
labdu	naptwu	‘many’

c. u(Written Manchu) : ㅜ(Yale romanization: wu)(Cheng hak um)

buce-	pwuchike	‘to die’
etu-	ethwumey	‘to wear’
ulme	wulmo	‘needle’
turi	thwuli	‘bean’
uyun	wuin	‘nine’
muke	mwukke	‘water’

d. o(Written Manchu) : ㅛ(Yale romanization: o)(Cheng hak um)

solho	solkoy, solko	‘Korea’
foholon	phokolo	‘short’
golmin	kolmi	‘long’
šolo-	solnomi	‘to roast’
morin	moli	‘horse’
coko	chokko	‘chicken’
boo	po	‘house’

(11a) and (11b) are important concepts within the overarching example of (11). In (11a), \bar{u} is realized behind dorsal consonants. These examples show that the phonetic realization of \bar{u} is closer to /o/ than to /u/. In (11b), we can see that u is realized after non-dorsal consonants is transcribed into ‘ㅛ(Yale romanization: o)’. An important point found in these examples is that a or \bar{u} is realized before and after u. Based on these facts, Kim (1989: 56) argued that there was a contrast between \bar{u} and u even after non-dorsal consonants in the pre-Written Manchu period. This study suggests that there may be a contrast between \bar{u} and u behind the non-dorsal consonants even in the Written Manchu period. In order to prove this argument, I will review the pattern of adding HA to the verb stem of (C)u(C)Cu- in the material of this study.

(12) The past form of (C)u(C)Cu-

a. dorsal consonant + u

uhu-	‘to wrap’	uhu-he
uku-	‘to surround’	uku-he
urgu-	‘to lean to one side’	urgu-he
urhu-	‘to lean to one side’	urhu-he
cuku-	‘to become tired’	cuku-he
dushu-	‘to sling’	dushu-he

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fushu-	‘to explode’	fushu-he
guku-	‘to be annihilated’	guku-he
guru-	‘to dig up’	guru-he
huthu-	‘to tie up’	huthu-he
kubu-	‘to edge’	kubu-he
kurbu-	‘to roll about’	kurbu-he
cf.		
gūtubu-	‘to spoil’	gūtubu-ha
uhū-	‘to gouge’	uhū-ha

b. non-dorsal consonant + u

uru-	‘to get hungry’	uru-ke
dubu-	‘to make someone hit’	dubu-he
suju-	‘to run’	suju-he
cf.		
suru-	‘to obtain relief’	suru-ke(in Norman (2013: 337))
yuyu-	‘to starve’	yuyu-he(in Norman (2013: 417))

c. non-dorsal consonant + u

ucu-	‘to mix’	ucu-ha
umbu-	‘to bury’	umbu-ha
unu-	‘to carry’	unu-ha
buju-	‘to boil’	buju-ha
bulu-	‘to stack hay in piles’	bulu-ka
buru-	‘to cover up’	buru-ha
fufu-	‘to saw’	fufu-ha
furu-	‘to slice’	furu-ha
juru-	‘to vomit’	juru-ha
mutu-	‘to grow’	mutu-ha
susu-	‘to become desolate’	susu-ha

šuru- ‘to spin’ šuru-ha

As in the example above, all verb stems with u following one of dorsal consonants have -He. However, in the verb stem with u following one of non-dorsal consonants, -He or -Ha is attached. This is different from the past tense of (C)i(C)Ci- being realized only with (C)i(C)CiHa. Because of this characteristic, there may be a contrast between ū and u after non-dorsal consonants in Written Manchu. Thus, ū most likely had the status as a phoneme in Written Manchu.

5. Conclusion

The distribution of i and ū in Manchu was treated as an important issue in Manchu vowel harmony. Although i was found to function as a neutral vowel, it was difficult to explain why i appeared with the RTR vowel or with the non-RTR vowel depending on the word. And, due to the characteristic that ū is written differently from u only after dorsal consonants, the phonemic status of ū was identified and interpreted differently in many studies. By examining the past form of (C)i(C)Ci- verb stem, this study revealed that i functioned as a completely neutral vowel. Additionally by examining the past form of (C)u(C)Cu-verb stem, this study revealed that there was a contrast between ū and u behind non-dorsal consonants in the Written Manchu period.

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ABSTRACT

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Seoul National University, KOREA

This study aims to provide a detailed description of the phonemic status of *i* and *ū* in Written Manchu vowel harmony. The distribution of *i* and *ū* in Manchu was treated as an important issue in Manchu vowel harmony. Although *i* was found to function as a neutral vowel, it was difficult to explain why *i* appeared with the RTR vowel or with the non-RTR vowel depending on the word. And, due to the characteristic that *ū* is written differently from *u* only after dorsal consonants, the phonemic status of *ū* was identified and interpreted differently in many studies. By examining the past form of (C)*i*(C)*Ci*- verb stem, this study revealed that *i* functioned as a completely neutral vowel. Additionally by examining the past form of (C)*u*(C)*Cu*-verb stem, this study revealed that there was a contrast between *ū* and *u* behind non-dorsal consonants in the Written Manchu period.